



**DALLAS-FORT WORTH INTERNATIONAL  
AIRPORT**

**STANDARD SPECIFICATION BOOK**

**VERSION 2**

**PUBLISH DATE**

**December 07, 2018**

SEALS PAGE

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Incorporated into the Contract Documents will be the Dallas-Fort Worth International Airport Standard Specification Book Version 2, Published December 07, 2018, and can be found at <https://www.dfwairport.com/business/solicitations>.

Any Section marked as “Applicable” below is hereby incorporated into the Project Manual by reference. Any Section revised or a new Section to be added to supersede the above published document are as indicated and dated below and are hereby included in the Project Manual. Any Section included in the published book that are not included in the table below are not included in the Project Manual.

Section	Description	Applicable	Revised	Added
<b>DIVISION 00</b>	<b>PROCUREMENT AND CONTRACTING REQUIREMENTS</b>			
00 01 01	Project Title Page	✓		
00 01 07	Seals Page	✓		
00 01 10	Table of Contents	✓		
<b>DIVISION 01</b>	<b>GENERAL REQUIREMENTS</b>			
01 10 01	Abbreviations, Acronyms and Definitions	✓		
01 10 02	Reference Standards	✓		
01 11 00	Summary of Work	✓		
01 18 16	Protection of Existing Underground Utilities and Cables	✓		
01 18 16.13	Utility Location Sign-Off Sheet	✓		
01 18 16.14	Underground Utilities Damage Report	✓		
01 21 00	Standby Time Allowance	✓		
01 21 00.01	Standby Time Work Report	✓		
01 25 13	Product Substitution Procedures	✓		
01 25 13.01	Product Substitution Form	✓		
01 26 13	Request for Information	✓		
01 29 00	Payment Procedures	✓		
01 29 73	Schedule of Values	✓		
01 29 85	Wage Rate Requirements	✓		
01 29 85.01	Request for Authorization of Additional Classification and Rate	✓		
01 30 00	Allowances	✓		
01 31 19	Project Meetings	✓		
01 32 16	Schedules	✓		
01 33 23	Shop Drawings, Product Data, and Samples	✓		
01 33 29.06.01	Contaminated Media Management Plan	✓		
01 35 13.13	Minimum Standards for Construction and Maintenance on the AOA	✓		
01 35 13.13.01	Minimum Standards for Construction and Maintenance on the AOA – Forms and Instructions	✓		
01 35 23	Hot Work Operations and Control	✓		
01 35 24	Asbestos Operations and Control	✓		
01 41 26.10	Construction Air Permitting	✓		
01 41 26.13	Concrete Batch Plant and Hot Mix Asphalt Plant Permitting	✓		
01 45 16.13	Contractor Quality Control	✓		
01 45 20	Non-Conformance Report	✓		
01 45 29	Owners Testing Laboratory	✓		
01 50 00	Temporary Facilities and Controls	✓		
01 50 00.01	Temporary Facilities and Controls – Water Request Form	✓		

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01 50 13	Owner's Field Office	✓		
01 52 00.01	Construction Signage	✓		
01 52 13	Dust Control	✓		
01 52 16	Haul Road	✓		
01 55 20	Contractor Use of the Parking Revenue Area	✓		
01 55 20.01	Contractor Use of the Parking Revenue Area – Instructions and Forms	✓		
01 55 29	Staging Areas	✓		
01 57 13	Temporary Erosion and Sediment Control	✓		
01 57 19	Spill Prevention Control and Countermeasure	✓		
01 57 19.13	Spill Response	✓		
01 57 19.13.01	Spill Response Plan Form	✓		
01 66 00	Product Storage and Handling Requirements	✓		
01 71 13	Mobilization	✓		
01 71 14	Land Use Requirements	✓		
01 71 14.01	Land Use Requirements – Application Procedures	✓		
01 73 29	Cutting And Patching	✓		
01 74 13	Progress Cleaning	✓		
01 74 18	Concrete Waste	✓		
01 74 19	Construction Waste	✓		
01 74 23	Final Cleaning	✓		
01 76 00	Protecting Installed Construction	✓		
01 76 50	Punch List	✓		
01 77 00	Closeout Procedures	✓		
01 77 00.01	Closeout Procedures – System Acceptance	✓		
01 78 23	Operation and Maintenance Data	✓		
01 78 33.36	Bonds and Warranties	✓		
01 78 39	Project Record Documents	✓		
01 78 46	Extra Stock Materials	✓		
01 79 00	Demonstration and Training	✓		
01 81 13	Sustainable Design Requirements	✓		
01 91 00	Commissioning	✓		
<b>DIVISION 03</b>				
32 92 19	Seeding and Sodding	✓		

– END OF SECTION –

**PART 1 – GENERAL****1.1 SUMMARY**

A. This Section defines common terms, abbreviations, acronyms and definitions used in the Contract Documents. The terms provided below are presented in alphabetical order and do not imply order of hierarchy or importance in the Project:

1. Access Control Office (ACO) – A section of the Department of Public Safety (DPS) responsible for administering Airport Access/Identification Badges and Air Operations Area (AOA) Access Permits.
2. Access Permit – A permit issued to a motor vehicle required to enter the AOA.
3. Administrator of the Code of Rules and Regulations (Administrator) – The Vice President of Public Safety for the Airport, or his/her authorized agent.
4. Air Operations Area (AOA) – Refer to General Provisions, Section 10.
5. Air Traffic Control Tower (ATCT)
6. Aircraft Movement Area (AMA) – An 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.
7. Aircraft Rescue and Fire Fighting (ARFF) Road – A designated road on the Airport that is under the operational control of the DPS and Airport Operations and is used for emergency purposes.
8. Airfield Construction – All work performed within the AOA.
9. Airfield Operations – The section of the Airport Operations Department responsible for all day to day operations on and surround the airfield.
10. Airport – Refer to General Provisions, Section 10.
11. Airport Board (or Board) – Refer to General Provisions, Section 10.
12. Airport Board Policy (ABP)
13. Airport CADD Standards Manual (CADD Manual) – The detailed document that contains the CADD information required to produce graphical CADD drawings for use for the Project. The CADD Manual may be located at the following:  
[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p1\\_007828.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p1_007828.pdf)
14. Airport Design Criteria Manual – The latest edition of the design criteria document to be used for all projects on the Airport property that may be located at the following:  
[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2\\_362946.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_362946.pdf)
15. Airport Identification/Access Badge - A photo-identification badge issued by the Airport granting unescorted access to specific areas 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.
16. Airport Operations Center (AOC)
17. Airport Operations Department – Refer to “Operations Department”.

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18. Allowance - As defined in Section 01 30 00.
19. Americans with Disabilities Act Accessibility Guidelines (ADAAG)
20. Approval Authority – The approval authority for ingress/egress issuance is the Airport’s Vice President of Airport Operations or Vice President of Design and Construction.
21. Apron (Ramp) – A paved surface usually around terminal buildings, cargo/air freight buildings, and aircraft hangars from which aircraft operate or are parked.
22. 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.
23. Award - Refer to General Provisions, Section 10.
24. Baseline Schedule - The detailed schedule of coordinated construction activities prepared by the Contractor, and approved by the Owner’s Authorized Representative (OAR), to plan the Work of the Project. The Baseline Schedule shall not be modified after the approval of the OAR. Refer to Section 01 32 16 for additional information.
25. Basis of Design (BOD) – As defined in Section 01 91 00.
26. Best Management Practice (BMP)
27. Bidder - Refer to General Provisions, Section 10.
28. Business Diversity and Development (BDD) - The Airport department responsible for business diversity and minority business opportunities and monitoring diversity participation in Airport projects.
29. Calendar Day - Refer to General Provisions, Section 10.
30. Certified Movement Area Escort (CMAE) – An Airport employee or otherwise authorized person responsible for guiding a non-Security Identification Display Area (SIDA) badged person and/or vehicle through the Transportation Security Administration (TSA) passenger screening checkpoint, manned AOA gate, or AOA un-manned access gate.
31. Central Terminal Area (CTA) – The ramp areas serving Terminals A, B, C, D, and E, and the 1E ramp.
32. Certificate of Occupancy (CO)
33. Change Order - Refer to General Provisions, Section 10.
34. Clean Air Act (CAA) – USC Title 42 §§ 7401 et seq.
35. Clean Water Act (CWA) - USC Title 33 §§ 1251, et seq.
36. Code of Federal Regulations (CFR)
37. Code of Rules and Regulations (Code) – The published Rules and Regulations of the Airport Board as ratified by local jurisdiction for the control of parking revenue boundary crossing by vehicles located at the following link:  
<https://www.dfwairport.com/about/publications/index.php>.
38. Commissioning – As defined in Section 01 91 00.

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39. Commissioning Agent – As defined in Section 01 91 00.
40. Commissioning Coordinator – As defined in Section 01 91 00.
41. Commissioning Plan – As defined in Section 01 91 00.
42. Commissioning Team – As defined in Section 01 91 00.
43. Construction Site Notice (CSN)
44. Contaminated Media Management Plan (CMMP) – Refer to Section 01 33 29.06.01.
45. Contract – Refer to General Provisions, Section 10.
46. Contract Administrator – The person assigned by the Owner to administer the Contract. Also “Procurement Contract Administrator”.
47. Contract Amount – The overall amount or cost included in the Contractor’s Bid and shown on Page 1 of the Executed Contract.
48. Contract Documents – All documents that together form that basis of the Contract including the Contract Agreement, including all General Provisions and Special Provisions; Project Schedule, Plans, and Specifications, and any executed modifications thereto.
49. Construction General Permit (CGP)
50. Contract Item (or Pay item) - Refer to General Provisions, Section 10.
51. Contract Time - Refer to General Provisions, Section 10.
52. Construction Manager (CM) - Refer to General Provisions, Section 10.
53. Construction Schedule – The schedule prepared by the Contractor updated throughout the course of the Project based on the approved Baseline Schedule.
54. Contractor - Refer to General Provisions, Section 10.
55. Contractor’s Authorized Representative (CAR) (Also Superintendent) - The Contractor’s official representative for the Project who is regularly present on the Project site, is authorized to receive and fulfill instructions from the Owner, and is responsible to supervise and direct the Contractor’s personnel on the Project. The person shall be designated by the Contractor, in writing, as the primary point of contact for all Contract related matters. Refer to General Provisions, Section 10, Superintendent.
56. 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.
57. Corrective Action – The replacement, removal, repair, or modification proposed by the Contractor to address a deviation or non-conformance issue on the Project. The Corrective Action will be approved by the Owner prior to implementation.
58. Critical Path Method (CPM) - A detailed project management scheduling technique for planning and monitoring a project.

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59. Cutting and Patching – Includes, but not limited to, the cutting and patching of existing work in order to accommodate the coordination of the Work, or the installation of new Work. Patching is also defined as the repair or filling of surfaces where existing items are removed depending on the context.
60. Department of Labor (DOL) – The United States Department of Labor which is responsible for the occupational safety, wage and hour standards, unemployment insurance benefits, and reemployment services.
61. Department of Public Safety (DPS) – The Airport department responsible for safety on the Airport property.
62. Design, Code, and Construction (DCC) – The 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 the Contract Documents.
63. Discharge Monitoring Report (DMR) – A regulatory term for a periodic water pollution report prepared for industry, municipalities, and other facilities discharging to the local surface waters.
64. Driver – An individual who drives or operates a commercial, governmental, institutional, and other type vehicle on the Airport.
65. Energy, Transportation and Asset Management (ETAM) – The Airport department including the Infrastructure Operations, Business Services and Energy & Utility Systems and responsible for operating and/or maintaining the Airport Infrastructure, Systems, and Equipment (Systems).
66. Engineer - Refer to General Provisions, Section 10. Refer to Architect/Engineer.
67. Environmental Affairs Department (EAD) – The Airport department responsible for environmental issues on the Airport.
68. Erosion Control Plans (ECP)
69. Estimated at Completion (EAC)
70. Estimate to Completion (ETC)
71. Extra Work - Refer to General Provisions, Section 10.
72. 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.
73. Federal Aviation Administration (FAA) – Refer to General Provisions, Section 10.
74. Green Building Standards (GBS) – The latest edition of the Airport “Green Building Standards” document located at the following:

[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p1\\_040164.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p1_040164.pdf).



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75. Haul Road – A specified roadway within the AOA serving authorized construction-related traffic.
76. Holder – A person, or his agent, who is granted operating authority to cross Parking Revenue Area (PRA) boundaries as specifically authorized in the Code.
77. Hot Work – Operations including cutting, welding, thermal welding, brazing, soldering, grinding, thermal straying, thawing pipe, or installation of roof systems requiring the use of a torch or any other open flame device or any other similar operation.
78. Hot Work Permit - A permit required of the Contractor from the Airport Fire Prevention and Planning Department necessary to perform any hot work operations on the Airport as part of the Project.
79. Infrastructure, Systems, and Equipment (Systems) - Consists of MEPS, Pavement, Signs & Markings, Grounds, Airfield Lighting and Utilities at the Airport. These systems are the responsibility of the Airport ETAM Department.
80. Ingress/Egress Device – A device that allows entry into the PRA by specified, unescorted vehicles.
81. Inspector – An person selected by 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.
82. Instrument Landing System (ILS)
83. International Building Code 2009 (IBC)
84. International Fire Code 2009 (IFC)
85. Knox Box - The rapid access security box by the Knox Company which provides first responders with immediate access into secure buildings, campuses, residences and commercial properties.
86. Land Use Committee (LUC) - The committee responsible for review of the land use at the Airport consisting of representatives from all relevant Airport Departments.
87. Materials - Refer to General Provisions, Section 10.
88. Material Safety Data Sheet (MSDS) – A formal document required by the Occupational Safety and Health Administration (OSHA) that contains information about the characteristics and actual or potential hazards of a substance. It identifies the material manufacturer along with the chemical identity, hazardous ingredients, physical and chemical properties, fire and explosion data, reactivity data, health hazards data, exposure limits data, precautions for safe storage and handling, need for protective gear, and spill control, cleanup, and disposal procedures.
89. Milestones - A special event or specific date that is established in a schedule to monitor the progress of the Project or a portion of the Project to assist the determination of whether the Project is on schedule
90. Mobilization – The actions of the Contractor to establish offices, lay-down areas, plants, and other facilities in preparation of performing the Work of the Contract.

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91. Multi-Sector General Permit (MSGP)
92. Municipal Separate Storm Sewer System (MS4)
93. National Environmental Laboratory Accreditation Certification (NELAC)
94. Navigational Aid (NAVAID) – An apparatus, generally located within the AOA, which serves as a guide to landing aircraft.
95. NAVAID Critical Area (NCA) – A three-dimensional area surrounding a NAVAID that, if penetrated by equipment or a stockpile, could cause interference with navigational equipment.
96. Non-Conformance Report (NCR) – A report prepared by the Owner’s personnel to document a deviation, deficiency, or other non-conformance item on the Project.
97. Non-Movement Area – An apron or other portion of the AOA where control and direction by the FAA Tower is not required.
98. Notice of Intent (NOI)
99. Not in Contract (NIC)
100. Notice of Change (NOC)
101. Notice of Termination (NOT)
102. Notice to Proceed (NTP) - Refer to General Provisions, Section 10.
103. Object Free Area (OFA) – As defined in Section 01 35 13.13.
104. Obstacle Free Zone (OFZ) – As defined in Section 01 35 13.13.
105. Operating Authority – Permission granted by the Administrator for a vehicle to enter the PRA in accordance with the Rules and Regulations.
106. Operations Department - The Airport department responsible for, among other functions, the Airfield Operations Section. Also Airport Operations Department.
107. Operator – The driver of a motor vehicle, the owner of a vehicle, or the Holder of a vehicle with Operating Authority.
108. Owner – Refer to General Provisions, Section 10. Refer to “Airport Board”.
109. Owner’s Authorized Representative (OAR) – A person designated by the Owner, in writing, with specific limits of authority on the Project. The OAR may be an employee of the Owner or an employee of a firm under contract with the Owner to provide specific services.
110. Owner’s Project Requirements (OPR)
111. Parking Business Unit (PBU) - The Airport department responsible for, among other functions, revenue control and operations of the PRA and issues and monitors use of parking privileges and Vehicle Access Tags (VATs.)
112. Parking Revenue Area (PRA) – The area bounded by fences, gate control equipment and arms, from which the Owner produces revenue from parking spaces.
113. Pay Item – Refer to “Contract Item” and General Provisions, Section 10.

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114. Payment Application – A formal request from the Contractor to the Owner for payment of the Work, or a portion of the Work, on the Project.
115. 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.
116. Plans - Refer to General Provisions, Section 10.
117. Pre-conditioned Air Unit (PCA Unit) – ,Equipment that provides cooling to the jet bridge and the aircraft while the aircraft is parked at the gate.
118. Pre-Construction Conference – Refer to Section 01 31 19.
119. Progress Meeting – Refer to Section 01 31 19.
120. Progress Payment – A payment from the Owner to the Contractor in response to a Payment Application submitted by the Contractor on the Project.
121. Project – The Project is the total Work performed under the Contract Documents.
122. Project Manual – The package containing all the Specification Sections, General Provisions, Special Provisions, and all attachments included therein, (e.g. soils reports, environmental reports, safety documents, etc.).
123. Punch List - A list prepared by the Owner's personnel to document outstanding work items during the Project Closeout process.
124. Quality Assurance (QA) - Refer to General Provisions, Section 10.
125. Quality Control (QC) - Refer to General Provisions, Section 10.
126. Quality Assurance Representative - The Airport employee or person designated by the Owner responsible for quality assurance tasks on the Project.
127. Recovery Schedule – As defined in Section 01 32 16.
128. Request for Information (RFI) - A formal request from the Contractor for additional information or clarification of information regarding an apparent inconsistency, error, or omission in the Contract Documents. The request may be based on unanticipated existing conditions on the Project site.
129. Rules and Regulations – The vehicle Rules and Regulations established under the AOA Rules and Regulations for Construction and Maintenance.
130. Ramp – Refer to “Apron”.
131. Runway – Refer to General Provisions, Section 10.
132. Runway Incursion – An incorrect presence of an aircraft, vehicle, or person on the protected area of a Runway.
133. Runway Safety Area (RSA)
134. Safety Area – A specific area surrounding Runways and Taxiways, which requires special authorization to enter.
135. Schedule of Charges – The rates and fees charged by and as approved by the Owner.

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136. Security Identification Display Area (SIDA) – All areas of the Airport identified in the 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 an escort by a CMAE. For purposes of construction and maintenance, also includes the entire area of the AOA.
137. Schedule of Values (SOV) – A detailed schedule provided by the Contractor which breaks down the Contract Amount, including Supplemental Agreements and Change Orders to date, into the Project approved cost codes divisions and/or sections of the Work. Refer to Section 01 29 73.
138. Security Threat Assessment (STA)
139. Site Mobilization Conference – Refer to Section 01 31 19.
140. Skire Unifier – Database software system used by the Owner for construction projects. All project submittals, meeting minutes, correspondence, etc. should be completed through this system unless otherwise noted in the Specification Sections or directed by the OAR.
141. Skylink Automated People Mover System – Guideway, stations, and vehicles to provide timely inter-terminal connections in the CTA.
142. Small/Disadvantaged/Minority/Women Business Enterprise (S/D/M/WBE)
143. Spill Prevention Control and Countermeasure (SPCC) – Refer to Section 01 57 19.
144. Spill Response Plan (SRP) – Refer to Section 01 57 19.13.
145. Specifications – Defines the qualitative requirements for material, and workmanship required for the Work. The Specifications for this Project consist of the Standard Specifications and any additional Specification Sections included in the Project Manual. Any Specification Sections included in the Project Manual will supersede a Standard Specification where a conflict may occur. The Specifications are part of the Contract Documents. Refer to General Provisions, Section 10.
146. Standby Time – As defined in Section 01 21 00.
147. State – The State of Texas
148. Stockpiles – Quantities of materials, debris or spoils, which remain on the work site after work has finished for the day, etc.
149. Stormwater Pollution Prevention Plans (SWPPP)
150. Subcontractor – Any independent firm, corporation, or partnership that enters into a subcontract with the Contractor to perform a portion of the Work of the Contract.
151. Substantial Completion - The stage of the Project, or a portion of the Project, where the Project is determined by the Owner to be sufficiently complete, in accordance with the Contract Documents, so the Owner may use or occupy the Project site, or a portion of the Project site, to be used for the intended purpose.
152. Substitution - As defined in Section 01 25 13.
153. Surface Movement Guidance & Control System (SMGCS)

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154. Systems – Infrastructure, equipment, and systems which are identified in the Contract Documents to be commissioned on the Project.
155. Systems Performance Group (SPG) - A group within the Airport ETAM Department which consists of the following teams:
  - a. Facility Systems
  - b. Watershed Management
  - c. Computer Maintenance Management Systems
  - d. Commissioning  
The SPG Manager is the designated Commissioning Authority (CxAuD).
  - e. Geospatial Analytics
156. Taxilane – A portion of an aircraft parking area used for access between Taxiways and aircraft parking positions
157. Taxiway – Refer to General Provisions, Section 10.
158. Temporary Structure - A portable building, Conex container, or shade structure that will be on the Project site less than ninety-one (91) Calendar Days from the date of the letter of authorization.
159. Texas Administrative Code (TAC)
160. Texas Accessibility Standards (TAS)
161. Texas Pollutant Discharge Elimination System (TPDES)
162. Texas Risk Reduction Program (TRRP)
163. Texas Manual of Uniform Traffic Control Devices (TMUTCD)
164. Time Impact Analysis (TIA)
165. United States Code (USC)
166. Utility - A privately, publicly or cooperatively owned line, facility and/or system for producing, transmitting or distributing communications, power or electricity, cable television, light, heat, gas, oil, crude products, water, wastewater, and other products that directly or indirectly serve the Airport or public.
167. Utility Coordinator – An employee of the Owner or other person designated by the Owner responsible to monitor and coordinate Utilities on the Project.
168. Utility Owner – A privately, publicly, or cooperatively owned company which owns, leases, and/or operates a Utility on the Airport.
169. 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.
170. Vehicle Access Tag (VAT)
171. Voluntary Cleanup Program (VCP)
172. Work – Refer to General Provisions, Section 10.
173. Work Breakdown Structure (WBS)

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174. Working Day - Refer to General Provisions, Section 10.

- B. Additional definitions and acronyms are included in the individual Specification Sections. Any such definitions and acronyms are meant to be cooperative with this Section.
- C. Additional professional association and public agency names, abbreviations, and acronyms are included in Section 00 10 02.
- D. The Contractor shall coordinate with the OAR to promptly resolve any conflicts in terminology or definitions between individual Specification Sections and this Section. Any unresolved disagreement between the Contractor and the OAR in regards to interpretation shall be resolved by the Owner.

### **PART 2 – PRODUCTS**

Not Used.

### **PART 3 – EXECUTION**

Not Used.

### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## REFERENCE STANDARDS

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#### PART 1 – GENERAL

##### 1.1 REQUIREMENTS INCLUDED

This Section includes the language definitions and standard references and agency/association acronyms included in the Contract Documents. Additional term definitions are included in the individual Specification Sections.

##### 1.2 QUALITY ASSURANCE

- A. Application: When a standard is specified by reference, the Contractor shall comply with the requirements and recommendations stated in that standard, except when requirements are modified by the Contract Documents or other applicable codes establish more stringent standards.
- B. Publication Date: The publication in effect on the Bid Date, except where a specific version date or publication date is specified in the Contract Documents.

##### 1.3 LANGUAGE DEFINITIONS

- A. "Directed", "Designated", "Selected", "Requested", "Authorized", "Permitted", or words of similar import: Direction, designation, selection, or similar action of the Owner is intended.
- B. "Require" and words of similar import: As required to complete Work and as required by the Owner.
- C. "Shall" or "Must": A mandatory requirement or activity of the Contractor or his associated Subcontractor.
- D. "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.
- E. "Provide": Contractor shall furnish and install Work.
- F. "Other acceptable manufacturer", "equal", "acceptable equal", "equivalent", or words of similar import: Refer to products or work proven to the satisfaction of the Owner, Architect/Engineer, or any specific department of the Airport to comply with the intent of the Contract Documents.
- G. "Acceptance", "acceptable", or words of similar import: Acceptance, acceptable or similar words shall be as approved by the Owner. "Accepted" or "Acceptance", where used in conjunction with an action on the Contractor's submittals, and requests, is limited to responsibilities and duties of the Owner's Authorized Representative (OAR), Architect/Engineer, or any department of the Owner as stated in General and Supplementary Conditions. Approval does not release the Contractor from responsibility to fulfill the requirements of the Contract Documents, unless specifically stated otherwise in the Approval or Acceptance provided by the Owner.
- H. "At no extra cost to Owner", "With no extra compensation to Contractor", "At Contractor's sole 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 Amount stated in executed Contract.
- I. "NIC": Work identified on the Contract Documents, which is not being performed or provided as part of the Contract; the term shall mean "Not in This Contract" or "Not Part of Work to be performed or provided by Contractor". "NIC" work is indicated as

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an aid to Contractor in scheduling amount of time and materials necessary for completion of Contract.

- J. "Indicated" refers to graphic representations, notes or schedules on the Plans, in other Specification Sections, or schedules, and similar requirements in the Contract Documents. Where the term "shown", "noted", "scheduled", and "specified" are used, it is to help locate the reference.
- 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. "Incidental" means materials or efforts required for the completion of the Work or a work item but will not be itemized for payment individually and will be considered as part of the overall Work or construction or installation of another work item.
- N. "Install" means unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, and finishing, curing, protecting, cleaning and similar operations.
- O. "Installer" is a person or firm engaged by Contractor, either as employee or Subcontractor, regardless of tier, for performance of a particular construction activity, including installation, erection, application, and similar operations. Installers are required to be experienced in operations they are engaged to perform. The term "experienced", when used with "installer", means having minimum five (5) years previous experience in projects similar in size and scope to this Project, and familiar with precautions required, and has complied with requirements of authority having jurisdiction.
- P. "Project site" is space available to Contractor for performance of Work, either exclusively or in conjunction with others performing construction as part of Project. The limits of Project site is shown on the Plans, or described in the Contract Documents, and may or may not be identical with description of land upon which Project is to be constructed.
- Q. "Specification Section" (Section), "Project Specification", "Technical Specification", shall refer to the specifications identified or included in the Project Manual or refer to the requirements of a Reference Standard depending on context.
- R. "Testing Laboratory" is an independent entity engaged by the Owner 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. Simple imperative mood of sentence structure may be used in the Specification Sections which place a 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 the phrase "The Contractor shall..." is included before such words for interpretation.



## REFERENCE STANDARDS

### Section: 01 10 02

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- B. Subsection titles and other identifications of subject matter in Specification Sections are intended as aid in locating and recognizing various requirements in Specification Sections. Titles do not define, limit or otherwise restrict the text of the Specification Sections 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

The organization of the Project Manual and Plans are not intended to control or to lessen responsibility of the Contractor in dividing Work among its Subcontractors, or in establishing extent of the Work to be performed by any trade.

#### 1.6 SYMBOLS

- A. Graphic symbols used in the 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. The Contractor shall request clarification from the OAR 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 the 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. Acronyms for governmental agencies and private associations are provided in this Section as an aid to the Contractor and are not all inclusive.
  - 4. 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 an integral part of Contract Documents to extent referenced. Work shall be executed on the Project in accordance with the requirements of the Reference Standards listed to the extent such requirements do not supersede or conflict with the requirements within the Contract Documents.
- C. Where a conflict may exist between requirements of two or more Reference Standards, and the Contract Documents do not clearly supersede the conflict, the Contractor shall request clarification from the OAR, prior to proceeding with activities

## REFERENCE STANDARDS

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- which are affected by such conflict. If work activities impacted by such conflict are on-going, the Contractor shall stop work request a clarification from the OAR.
- D. If the Contractor does not request conflict clarification prior to proceeding or continuing with activities impacted or controlled by such information, the Contractor shall be proceeding at risk and will not be compensated for any re-work or removal of work, labor, material, or any other costs associated with the impacted work.
  - E. Publications may be referenced in text by basic designation only with organizations and societies referenced by abbreviations indicated.
  - F. When a Reference Standard is referred to in an individual Specification Section, but is not listed by title and date, it shall be considered to be the latest edition of such reference including the appropriate supplements, amendments, revisions, or errata at the date of the issuance of the Project Manual.
  - G. The Contractor shall provide at the Project site copies of the Reference Standards as required, or as the OAR may request, and maintain those copies at Project site throughout construction period to ensure proper performance of the Work.

#### 1.8 ABBREVIATIONS AND NAMES OF ORGANIZATIONS

Obtain copies of Reference Standards direct from publication source. All Airport codes and reference documents may be obtained online, as noted in various Sections, or from the Design, Code, and Construction Department (DCC).

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.
ACG	AABC Commissioning Group
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

## REFERENCE STANDARDS

### Section: 01 10 02

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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
ASLA	American Society of Landscape Architects
ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
AWI	Architectural Woodwork Institute
AWPA	American Wood-Preservers' Association
AWS	American Welding Society
BCA	Building Commissioning Association
BIA	Brick Institute of America
BHMA	Builders Hardware Manufacturers Association
BOCA	Building Officials and Code Administrators
CBM	Certified Ballast Manufacturers
CDA	Copper Development Association
CISCA	Ceiling & Interior Systems Construction Association
CISPI	Cast Iron Soil Pipe Institute
CLFMI	Chain Link Fence Manufacturers Institute
CPSC	Consumer Product Safety Commission
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard
CSI	Construction Specifications Institute
CTI	Ceramic Tile Institute
DHI	Door & Hardware Institute
EPA	Environmental Protection Agency
FM	Factory Mutual System
FAA	Federal Aviation Administration
FARs	Federal Aviation Regulations

## REFERENCE STANDARDS

### Section: 01 10 02

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FGMA	Flat Glass Marketing Association
FS	Federal Specification
FSCSI	Food Service Consultants Society International
GA	Gypsum Association
HPMA	Hardwood Plywood Manufacturers Association
IAPMO	International Institute of Plumbing and Mechanical Officials
ICBO	International Conference of Building Officials
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IETA	International Electrical Testing Association, Inc.
IILP	International Institute for Lath & Plaster
ILI	Indiana Limestone Institute of America
IPCEA	Industrial Power Cable Engineers Association
ISA	Instrument Society of America
IWA	International Waterproofing Association
MCAA	Mechanical Contractors Association of America
MLSFA	Metal Lath/Steel Framing Association
MIA	Marble Institute of America
MIL	Military Specifications
MSHA	Mine Safety and Health Administration
MSSVFI	Manufacturer's Standardization Society of the Valve & Fitting Industry
NAAMM	National Association of Architectural Metal Manufacturers
NAFM	National Association of Fan Manufacturers
NAPA	National Asphalt Pavement Association
NBS	National Bureau of Standards
NCPWB	National Certified Pipe Welders Bureau
NCTCOG	North Central Texas Council of Governments
NEBB	National Environmental Balancing Bureau
NEC	National Electric Code
NEMA	National Electrical Manufacturer's Association
NFC	National Fire Code
NFPA	National Fire Protection Association
NFPA	National Forest Products Association
NIOSH	National Institute for Occupational Safety and Health

## REFERENCE STANDARDS

### Section: 01 10 02

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NRC	National Response Center
NRCA	National Roofing Contractors Association
NSF	National Sanitation Foundation
NSWMA	National Solid Wastes Management Association
NTMA	National Terrazzo & Mosaic Association
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration
PCA	Portland Cement Association
PCI	Precast/Prestressed Concrete Institute
PDI	Plumbing & Drainage Institute
PEI	Porcelain Enamel Institute
PS	Product Standard
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
TDSHS	Texas Department of State Health Services
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

**REFERENCE STANDARDS**

**Section: 01 10 02**

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**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## SUMMARY OF WORK

Section: 01 11 00

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### PART 1 – GENERAL

#### 1.1 WORK COVERED BY CONTRACT DOCUMENTS

**- To be defined within each contract –**

The Work of this Contract comprises of [REDACTED]. 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 Identification/Access Badges and Access Permits as required by the Airport.
- B. All appropriate forms and applications must be obtained, completed and submitted. A minimum required list of forms and applications is as follows:
  1. AOA Area Access or Parking Revenue Area (PRA) Access Permits Form (1 page). This form can be obtained from Airport Design, Code, and Construction Department (DCC).
  2. Access Badge Application (3 pages). This form can be obtained on the Airport website: <https://www.dfwairport.com/badge/>

#### 1.3 CONTRACT TIME & SCHEDULE MILESTONES

**- To be defined within each contract –**

- A. The Contractor shall sequence and stage the Work in accordance with the requirements of the Contract Documents to meet the following interim requirements and Final Completion date.
  1. [REDACTED] 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 = [REDACTED] consecutive Calendar Days from NTP.
- B. The Owner reserves the right to request the completion of work based on critical Milestones established in the Contract Documents.
- C. The Owner reserves the right to apply Liquidated Damages associated with the request the completion of work based on critical Milestones.

#### 1.4 HOURS OF WORK

- A. The 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. Any Work within an aircraft parking apron and Object Free Area (OFA) of an active Taxiways or Taxilane will be restricted to the following:
    - a. From 22:45 hours to 05:15 hours.
    - 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.

## SUMMARY OF WORK

### Section: 01 11 00

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2. There are two types of Holiday Blackout periods. One governs the area within the Air Operations Area (AOA) and the other holiday blackout periods governs the area outside of the Air Operations area. The following construction blackout dates are recognized for the Project:

a. **Airfield Blackout Dates**

- 1) 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.
- 2) 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].

b. **Landside Blackout Dates**

The following 2019 dates have been established as construction blackout dates in the landside and customer service areas. During the noted landside Holiday blackout dates any work that impacts ramp level operations, roadways, guests inside the terminals and non-emergency utility outage requests, will normally not be approved. Work and utility outages that do not impact stakeholder operations or have limited impact will be evaluated on a case by case basis during the blackout periods. The dates listed are the primary dates and others may follow:

- Thanksgiving – Friday, November 16 through Tuesday, November 27, 2018
- Christmas/New Year – Friday, December 21 through Wednesday, January 2, 2019
- Spring Break – Thursday, Feb 28 at 00:00 am – Monday, March 18, 2019 at 11:59 pm
- Memorial Day – Thursday, May 23 at 00:00 am through Tuesday, May 28, 2019 at 11:59 pm
- July 4 – Thursday, June 27 at 00:00 am through Friday, July 5, 2019 at 11:59 pm
- Labor Day – Thursday, August 29 at 00:00 am through Tuesday, September 3, 2019 at 11:59 pm
- Thanksgiving – Thursday, November 21 at 00:00 am through Tuesday, December 3, 2019 at 11:59 pm
- Christmas/New Year – Friday, December 20 at 00:00 am through Thursday, January 2, 2019 at 11:59 pm

- c. For all utility outages, a Utility Outage Request form must be submitted seven days in advance to [Poweroutage@dfwairport.com](mailto:Poweroutage@dfwairport.com). For power outage requests, all impacted panel schedules must be submitted



## **SUMMARY OF WORK**

### **Section: 01 11 00**

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with the request. Operations will review and if needed, coordinate a stakeholder meeting to discuss mitigation plans. One hour prior to all utility outages, the requestor must call the Airport Operations Center at 972-973-3112 one hour prior to the scheduled outage for a final go/no-go. The Utility Outage Request form may be found on <https://www.dfairport.com/operations/> or you may request a form from [PowerOutage@dfairport.com](mailto:PowerOutage@dfairport.com).

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

**1.1 SUMMARY**

This Section shall govern the field location of all underground existing Utilities and sub-drains in construction areas of the Project. It shall include, but not be limited to, the location of electrical and communication ducts, airfield lighting and control cables, fiber optic and Federal Aviation Administration (FAA) Navigational Aid (NAVAID) cables. It is the intent of this Section 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 for 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 Airport department and/or the FAA.
- C. The Contractor shall coordinate with all Utility Owners maintaining facilities at the Airport as well as Utilities owned by the Owner through the Owner's Authorized Representative (OAR) prior to any excavation/digging and ensure all available as-built information has been provided, and provide the OAR with written documentation of how the Utility location was verified.
- D. The Contractor shall continuously maintain Utilities for facilities and/or systems, which are or may be affected by the Work of the Project. Refer to the Utility Location Sign-Off Sheet included in Section 01 18 16.13. The Contractor shall prepare and maintain a contingency plan, approved by the OAR, 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 the Airfield Operations Department and Airport Maintenance through the OAR on all damage to underground Utilities, and follow up with written reports. Refer to the Underground Utilities Damage Report included in Section 01 18 16.14.
- E. Accurately locate all the routing of underground cable and Utilities within the Project areas to be excavated, trenched, or drilled. The location 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 feet. Obtain the OAR approval of proposed marking devices. Use semi-permanent markers that are low profile, frangible and non-metallic within the Runway and 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

## PROTECTION OF EXISTING UNDERGROUND UTILITIES AND CABLES

### Section: 01 18 16

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- providing and maintaining a field survey and plan of the marker locations replacing any disturbed markers at its own expense.
- F. 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.
- G. The Contractor will be responsible for the completion of all forms required by the Owner 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 the Owner. The Dig Book must also be kept onsite by the Contractor until the Work is complete. It is suggested that the Contractor allow at least one (1) month for the assemblage and approval of all requirements.
- H. 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 Owners, and shall reside 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 the OAR 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 OAR and the Contractor's Authorized Representative (CAR) must sign off that the cable or Utility has been located before any work is started. Coordinates of the cable or Utility shall be recorded 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.
- I. 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, it shall be totally the decision of the FAA. All cost related to the said damaged NAVAID shall be the sole responsibility of the Contractor.

## **PROTECTION OF EXISTING UNDERGROUND UTILITIES AND CABLES**

### **Section: 01 18 16**

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

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**

**UTILITY LOCATION SIGN-OFF SHEET**  
**Section: 01 18 16.13**

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**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 completed and that field investigation(s) to locate any Utilities in the Work area, where the proposed excavation will occur, has been Completed.

Contractor's Authorized Representative: \_\_\_\_\_ Date: \_\_\_\_\_

Concurrence by  
Owner's Authorized Representative: \_\_\_\_\_ Date: \_\_\_\_\_

cc: Utility Coordinator  
Construction Manager  
Quality Assurance Representative  
AOPS (6/91)  
Dallas-Fort Worth International Airport

\*Note: MAPSCO refers to the latest edition of the Fort Worth Street Guide published by the Kappa Map Group.

**- END OF SECTION -**

**UNDERGROUND UTILITIES DAMAGE REPORT**  
**Section: 01 18 16.14**

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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  
Construction Manager

**- END OF SECTION -**

## **STANDBY TIME ALLOWANCE**

### **Section: 01 21 00**

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#### **PART 1 - DESCRIPTION**

##### **1.1 GENERAL**

- A. Some of the Work of this Contract must be constructed at locations that are critical to the overall operation of the airfield. The Contractor shall coordinate the scheduling and sequencing of the Work with the Owner's Authorized Representative (OAR) 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 OAR, 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 OAR.
- B. Work under this Section is subject to the requirements of the Contract Documents.

##### **1.2 SUBMITTALS**

- A. During the Mobilization phase of the Contract, the Contractor shall submit a listing of hourly billing rates (idle and operating rates) for each type of equipment that will be used on the Project. The OAR 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 standard or regular equipment scheduled for actual use and operation shall be subject to Standby Time compensation. Any equipment provided as replacement for any regular equipment will not be subject to Standby payment.

#### **PART 2 - MATERIALS**

##### **2.1 STORAGE OF MATERIALS**

The Contractor will not be allowed to stockpile materials in any location that could interfere with airfield operations unless the Contractor can demonstrate to the OAR 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. The final determination of timely removal of such materials will be the responsibility of the OAR.

##### **2.2 PAYMENT FOR IMPACTS TO MATERIALS**

If a Standby Time period results in impacts to materials that renders the materials unusable, the Contractor will submit invoices to the OAR documenting the costs for such materials. For example, if the Contractor has concrete on site that cannot be used due to a Standby Time period, resulting in the concrete being discarded, the costs for this material may be submitted for reimbursement. No Contractor or Subcontractor mark-up will be allowed for this type of material reimbursement.

## STANDBY TIME ALLOWANCE

### Section: 01 21 00

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#### PART 3 - EXECUTION

##### 3.1 PROJECT WORK SCHEDULE

Prior to beginning construction, the Contractor shall prepare and submit a Construction Schedule to the OAR for review and approval. In preparing the Construction Schedule, the Contractor will incorporate phasing details and construction restraints set forth in the Contract Documents. During the review of the Construction Schedule, the OAR will conduct a meeting with the Contractor and Airfield Operations to review potential airfield operational impacts on the Construction Schedule. The Contractor, as necessary, will modify the Construction Schedule to minimize any potential impacts.

##### 3.2 DAILY WORK SCHEDULES

Prior to the end of each Working Day (by 6:00 pm local time), the Contractor shall attend a schedule meeting with the OAR to review the next day's schedule for work in proximity to an active Taxiway or Runway. Prior to the meeting, the OAR will check with Airfield Operations Department to determine which Taxiway and Runway configurations are planned for the next 24 hours. During the daily schedule meeting, the Contractor and OAR 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 OAR determines 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.

##### 3.3 AUTHORIZATION AND CANCELLATION OF WORK

At the daily schedule meeting, the OAR 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 OAR notify 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.

##### 3.4 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 OAR 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

If the Contractor's crew for the cancelled work arrives at the site and is sent home, the Contractor will be compensated for two (2) 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 OAR may approve additional payment for more than two (2) hours of the shift. Before the OAR will consider this additional



## **STANDBY TIME ALLOWANCE**

### **Section: 01 21 00**

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payment, the Contractor must provide information (actual invoices) quantifying the Contractor's costs.

#### **2. Work is Temporarily Stopped and Restarted**

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 OAR 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**

If the Contractor is directed to stop an element of work for the remainder of the day, additional compensation will be authorized for two (2) 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 provided the OAR 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**

For any component of authorized work temporarily stopped by the OAR due to the airfield operations, the Contractor shall complete the "Standby Time Work Report" form included in Section 01 21 00.01. At the end of the work shift the Contractor and OAR will verify the labor and equipment impacted, the duration of the temporary stoppage, and any materials determined to be discarded as a result of the temporary stoppage event.

## **PART 4 - MEASUREMENT AND PAYMENT**

### **4.1 COMPENSATION FOR STANDBY TIME**

Compensation for Standby Time will be authorized for the Contractor in accordance with the criteria set forth in this Part 4. Compensation will be limited to the Contractor's labor and equipment costs and materials determined to be discarded or lost due to the event. Materials discarded due to delays or a work stoppage event which qualify as Standby Time based on the criteria herein, will be compensated at the discretion of the Owner based on the determination of the OAR. All compensation requests must be documented on the "Standby Time Work Report" form in Section 00 21 00.01. In calculating compensation for Standby Time, the OAR will not authorize any Contractor or Subcontractor mark up on materials, labor, or equipment..

## STANDBY TIME ALLOWANCE

### Section: 01 21 00

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#### 4.2 ADDITIONAL CONTRACT TIME

Additional Contract Time will be allowed for any Working Day during which **all** of the following criteria are met:

- A. The impacted work was scheduled by the Contractor and authorized by the OAR.
- B. The Contractor can demonstrate that the impacted work is critical to meeting one or more of the Contract Milestones in the Project Schedule or construction phase durations.
- C. The temporary work stoppage impacts more than four (4) hours of scheduled work.
- D. The Contractor submits a written request in accordance with General Provisions 80-9 "DETERMINATION AND EXTENSION OF CONTRACT TIME", requesting that additional Calendar Days be added to the Contract Time.

#### 4.3 BASIS OF PAYMENT

Payment will be made on a time and material basis as specified above and supported by a completed "Standby Time Work Report".

<u>ITEM</u>	<u>UNIT DESCRIPTION</u>	<u>UNIT</u>
01210	Standby Time Allowance	per Allowance

**- END OF SECTION -**

**STANDBY TIME WORK REPORT**  
**Section: 01 21 00.01**

<p><b>Dallas-Fort Worth International Airport</b></p> <p><b>STANDBY TIME WORK REPORT</b></p> <p>DATE OF WORK _____</p> <p>WORK REPORTS TO BE COMPLETED DAILY WHEN EXTRA WORK (AUTHORIZED OR UNAUTHORIZED) IS IN PROGRESS.          FORM SHALL BE SUBMITTED TO CONSTRUCTION MANAGER FOR SIGNATURE DURING THE DAY FOLLOWING SUCH WORK.</p> <p>GENERAL CONTRACTOR _____</p> <p>SUBCONTRACTOR _____</p>	<p> <input type="checkbox"/> CONSTRUCTION INSPECTOR  <input type="checkbox"/> CONSTRUCTION MANAGER  <input type="checkbox"/> CONTRACTOR         </p> <p>Work Report # _____</p> <p>CONTRACT NO _____</p> <p>CONTRACT NAME _____</p> <p>WORK DESCRIPTION, LOCATION _____</p>
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LABOR / PERSONNEL			EQUIPMENT USED	
NAME	CLASSIFICATION	HRS	TYPE - MANUFACTURER - CAPACITY	HRS
<b>TOTAL LABOR / PERSONNEL</b>			<b>MATERIAL USED</b>	
			<b>FULL DESCRIPTION</b>	<b>QTY</b>
CORRECT AS TO TIME, MATERIALS AND EQUIPMENT			SUBMITTED	
Contractor _____	DATE _____		Construction Manager _____	DATE _____

**- END OF SECTION -**

**PART 1 – GENERAL**

**1.1 SUMMARY**

This Section covers the requirements for Contractor requests for a product Substitution on the Project.

**1.2 DEFINITIONS**

Substitution: A request for a change in a product, material, equipment and/or method of construction required by Contract Documents after Contract Award are considered a Substitution. The following are not considered a Substitution:

- A. A Substitution requested by Bidders during the bidding period, and accepted prior to Award, is considered as included in the Contract Documents, and is not subject to requirements specified in this Section.
- B. Specified options of products and construction methods included in the Contract Documents.
- C. Contractor's determination of and compliance with governing regulations and orders issued by governing authorities.

**1.3 CONTRACTOR'S REPRESENTATION**

A request for a Substitution is a representation that the Contractor:

- A. Has investigated proposed product and has determined that it is equal to or superior in all respects to that specified in the Contract Documents.
- B. Will provide the same or better warranties or bonds for substitution as for product specified in the Contract Documents.
- C. Will coordinate the installation of the accepted substitution into the Work, and will make such changes as may be required for the Work to be complete in all respects.
- D. Waives claims for any additional costs caused by the Substitution, which may subsequently become apparent.
- E. Has provided complete cost data which includes related costs under this Contract, but not costs under separate contracts.

**1.4 OWNER'S DUTIES**

- A. The Owner, either directly or through an Owner's Authorized Representative (OAR), will determine the acceptability of proposed substitutions.
- B. The Owner and/or OAR will review the Contractor's request for a Substitution with reasonable promptness.
- C. The OAR will notify the Contractor, in writing, of the decision to accept or reject the request for a Substitution.
- D. The Owner or the Architect/Engineer review, acceptance, or failure to take exceptions to a Substitution or other review document, shall not relieve the Contractor of the responsibility for the Substitution 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 the Specifications.
  - 3. For products specified by naming one or more products and manufacturers, there is no option, unless a Substitution is approved.
- B. The OAR will consider a request from the Contractor for a Substitution of a product in place of the one specified only on the Product Substitution Form included in Section 01 25 13.01.
- C. Within a period of 30 Calendar Days after Award of the Contract or respective subcontract, the OAR will consider formal requests from Contractor for Substitutions in place of the products specified in the Contract Documents. After the end of that period, Substitution requests will be considered only if specified product is no longer manufactured.
- D. Substitutions will only be considered when the Contractor can demonstrate to the satisfaction of the OAR that the request for a substituted product is reasonable for the Project.
- E. The Contractor shall 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 the proposed Substitution meeting or exceeding the requirements 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 the proposed Substitution including its quantities with product specified and list significant variations.
  - 3. Data relating to changes in Construction Schedule and indicating any impact of proposed Substitution on overall Contract Time.
  - 4. Adjustment in Contract Amount for each Substitution.
  - 5. Changes required in other elements of Work and to any construction performed by Owner or separate Contractors, if any, to accommodate the proposed Substitution.
  - 6. Availability of maintenance service and source of replacement parts and materials, as applicable.

## PRODUCT SUBSTITUTION PROCEDURES

### Section: 01 25 13

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7. Provide test data from an independent testing laboratory to show compliance with performance characteristics specified in the Contract Documents as compared to the product to be replaced with the Substitution.
  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.
  4. Vibration generation.
  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. A Substitution will not be considered for acceptance when:
1. Indicated or implied on shop drawings, or any product data submittal without a formal request from Contractor for a Substitution.
  2. Requested directly by Subcontractor or supplier.
  3. Acceptance will require substantial revision of Contract Documents or increase in the Contract Time.
  4. Any increase in the Contract Amount.
- H. The Contractor or any Subcontractor shall not order or install any substitute product without the written acceptance of the OAR.
- I. The Contractor assumes full responsibility for justifying each Substitution And the decision of acceptance or rejection of proposed Substitution by the Owner will be final.
- J. If a proposed Substitution is not accepted, the Contractor shall provide a specified product or material meeting the requirements of the Contract Documents.
- K. The Contractor shall reimburse the Owner for any expenses incurred by Owner or the Architect/Engineer for modifications to the Contract Documents required by any Contractor requested Substitution accepted by the Owner.

## PART 3 – EXECUTION

### 3.1 SUBSTITUTION REQUEST

The Contractor shall complete and submit a Product Substitution Form included in Section 01 25 13.01 for each proposed Substitution.

## PART 4 - MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

**PRODUCT SUBSTITUTION FORM**

**Section: 01 25 13.01**

**SUBSTITUTION REQUEST**

<b>CONTRACT NO.</b>		<b>DATE:</b>	
<b>CONTRACTOR:</b>		<b>TECHNICAL SUBMITTAL NO.</b>	

**Complete SPECIFIED and PROPOSED sections for each item as applicable.**

**PRODUCT DESCRIPTION**

<b>PROPERTY</b>	<b>SPECIFIED</b>	<b>PROPOSED</b>
1. Manufacturer and model number		
2. Governing quality standards		
3. Appearance/finish		
4. Ease of operations		
5. Maintenance/useful life		
6. Source of maintenance service and replacement materials		
7. Suitability for climate and/or operating conditions		
8. Effect on schedule		
9. Other significant differences		
10. Changes required to other elements of work due to substitution		
11. Explanation of how substitution is beneficial		

**Document Title: PRODUCT SUBSTITUTION FORM**

**Section: 01 25 13.01**

To: Construction Manager:								
Project Name:								
SPECIFIED ITEM:								
	Section	Page		Paragraph	Description			
The undersigned Contractor's Authorized Representative (CAR) 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 the Substitution will require for its proper installation.							
The undersigned CAR states that the following paragraphs are correct, unless as are modified on the attachments.								
1.	The proposed Substitution does not affect dimensions in the Contract Documents.							
2.	The undersigned CAR agrees to pay for changes to the building design, including engineering design, detailing and construction costs caused by the 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 undersigned CAR further states that the function, appearance, and quality of the proposed Substitution are equivalent or superior to the specified item in the Contract Documents.								
5.	Cost Reduction to the Owner:		\$					



<b>ACCEPTANCES:</b>							
1.	Contractor's Authorized Representative (CAR) Acceptance:					Representing:	
		Date:					
2.	Owner's Authorized Representative (OAR) Acceptance:					Representing:	
		Date:					
3.	Architect/Engineer Acceptance:					Representing:	
		Date:					
		Accepted as Noted					
		Not Accepted					
		Received too late					
		Resubmit with complete information					

**- END OF SECTION -**

# REQUEST FOR INFORMATION

Section: 01 26 13

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## PART 1 – GENERAL

### 1.1 SUMMARY

This Section covers the process for the Contractor to request a clarification on the Project Documents through a Request for Information (RFI) during the Project.

### 1.2 GENERAL

- A. An RFI is intended for the Contractor to request a clarification and/or interpretation of the Contract Documents due to an apparent inconsistency, error, or omission, or due to unanticipated existing conditions.
- B. An RFI is not intended for by the Contractor to request substitutions, proposed changes to the Contract Documents, the resolution of any non-conforming work, or for general questions not related to the Contract Documents.
- C. The RFI process is intended to be a cooperative effort between the Contractor, the Owner, and the Architect/Engineer to clarify any apparent errors, omissions, or ambiguities in the Contract Documents while maintaining the progress of the Work.

### 1.3 RFI NUMBERING

- A. The Contractor shall number each RFI sequentially utilizing a three digit code starting with “001” and continuing “002”, “003”, etc.
- B. A resubmittal or revised RFI on the same subject shall be numbered utilizing the same three digit code and including a letter suffix beginning with “A” and continuing sequentially. (e.g. The second revision to the second RFI would be numbered “002B”.) In such case, the previous edition of the RFI shall be acknowledged to be superseded and thereby closed in the description of revised RFI.
- C. A three digit alphanumeric prefix designation may be utilized on a large project, or a project involving numerous buildings or structures. (e.g. The second RFI on “Building A” could be “BDA-002”).
- D. The Contractor shall consult with the Construction Manager (CM), whether such prefix designation is required for the Project and shall maintain the prefix chosen unique designation for each building or structure consistent throughout the Project.

### 1.4 DOCUMENTATION

- A. All notifications, documentation, and transmittals between the Contractor and the Owner’s personnel for the RFI process shall utilize the Skire Unifier software application, unless an alternate form of transmission is directed by the Owner for the Project.
- B. If an alternate form of transmission is directed for the Project, all notifications, documentation, and transmittals shall utilize that form of transmission.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 SUBMISSION

- A. The Contractor shall submit an RFI to the CM identifying the subject and providing all necessary reference information.

## REQUEST FOR INFORMATION

### Section: 01 26 13

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- B. The Contractor shall submit only a complete RFI including all attachments necessary to adequately explain the subject of the RFI.
- C. The Contractor shall limit the RFI to only one (1) Contract Item or only one (1) Specification Section reference.

#### 3.2 RESPONSE

- A. The CM will review the RFI to respond or forward to the Architect/Engineer or other Owner personnel for input or reject the RFI if it is determined to be incomplete.
- B. The Architect/Engineer or other Owner personnel will review the RFI and provide a response to the CM or request additional information to adequately review and respond to the RFI.
- C. The CM will forward the response or request additional information from the Contractor.
- D. If the CM requests additional information, the Contractor shall provide such information within [two (2) Working Days] unless otherwise allowed by the CM.
- E. If the Contractor does not provide the requested information within [two (2) Working Days], the CM will close the RFI. In such a case, the Contractor may submit a new RFI concerning the subject matter when the requested information can be provided.
- F. If the Contractor submits a new RFI concerning a previously rejected or closed RFI without the previously requested information, the RFI will be rejected by the CM.
- G. When the CM returns the response to the Contractor, the RFI will be closed.

#### PART 4 – MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

## **PAYMENT PROCEDURES**

### **Section: 01 29 00**

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#### **PART 1 – GENERAL**

##### **1.1 GENERAL**

This Section covers the requirements for the Contractor to prepare and submit a Payment Application.

##### **1.2 FORMAT**

- A. The Contractor shall use the pay request forms provided at the Project Pre-Construction Conference.
  - 1. Airport 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 pay request forms may be obtained from the Owner's Authorized Representative (OAR).

##### **1.3 PREPARATION OF APPLICATIONS**

- A. The Contractor shall complete the required information on the appropriate pay request forms.
- B. The forms shall be certified by signature of Contractor's Authorized Representative (CAR). The copies submitted to the OAR shall include an original signature in blue ink of the CAR.
- C. The forms shall include data from the current approved Construction Schedule with the Schedule of Values or from an authorized computer produced cost control reports, as applicable. Each line item for portion of Work performed during the represented time period shall include a percent completed for the time period represented and a cumulative percent completed to date.
- D. Prepare an application for final payment as specified in the General Provisions, Section 90, Measurement and Payment.

##### **1.4 SUBMITTAL PROCEDURES**

Submit one (1) originally signed copy of the pay request forms at times designated in the schedule provided at the Pre-Construction Conference.

##### **1.5 SUBSTANTIATING DATA**

- A. When the Owner requires substantiating information, the Contractor shall submit data justifying line item amounts in question.
- B. The Contractor shall provide one (1) copy of data with cover letter for each copy of the submittal. Show application number and date, and line item by number and description.
- C. Provide one (1) copy of the latest Construction Schedule, updated to the application date line.

#### **PART 2 – PRODUCTS**

Not Used.

**PAYMENT PROCEDURES**

**Section: 01 29 00**

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**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## **SCHEDULE OF VALUES**

### **Section: 01 29 73**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

This Section covers the procedures for the Contractor to prepare and submit a Schedule of Values (SOV) for a Lump-Sum Contract.

##### **1.2 FORMAT**

The Contractor shall provide:

- A. The SOV on 8-1/2 inch by 11 inch bond paper, or as otherwise approved, for review by the Owner's Authorized Representative (OAR).
- B. The SOV on the Contractor's standard forms or may be provided on a computer program-driven printout if approved by the Owner's Authorized Representative (OAR).

##### **1.3 CONTENT**

The Contractor shall:

- A. Assign each major item a singular value as a separate line item to serve as a basis for computing values for Progress Payments.
- B. Include any Allowances as a separate line item and coordinate the items with the Construction Schedule general activities.
- C. List values for the cost of stored products including any taxes paid for items on which payments will be requested for stored products.
- D. Ensure the sum of values listed equals the total Contract Amount.

##### **1.4 SUBMITTAL**

- A. The Contractor shall submit three (3) copies of Schedule of Values at the Pre-Construction Conference.
- B. The SOV shall be transmitted under Owner-accepted form transmittal letter identifying the Project by title and number and Contract number.

##### **1.5 SUBSTANTIATING DATA**

- A. When the OAR requires substantiating information to support the SOV, the Contractor shall submit data justifying line item amounts in question.
- B. The Contractor shall provide one (1) 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.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## **WAGE RATE REQUIREMENTS**

### **Section: 01 29 85**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

This Section includes the required forms and schedules necessary to meet the wage rate requirements for the Project.

##### **1.2 FORMS**

- A. Request for Authorization of Additional Classification and Rate - Standard Form 1444
- B. General Wage Decision Rates for Tarrant and Dallas County, Texas - <https://www.wdol.gov/dba.aspx>

##### **1.3 WAGE RATES**

- A. United State 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 directly 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 performing 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. If the Work specified in this Contract requires work performed by laborers or mechanics whose job classification is not listed in the Wage Determination, the Contractor is responsible for preparing the Request for Authorization of Additional Classification and Rate Standard (Form 1444) located in Section 01 29 85.01. The latest version of Form 1444 may also be obtained at the following address: <https://www.gsa.gov/forms-library/request-authorization-additional-classification-and-rate>
- D. Additional copies of the latest Form 1444 may also be obtained from the Owner's Authorized Representative (OAR). The Contractor must complete Items 3 through 15 and submit the request to the OAR prior to issuance of the Notice to Proceed (NTP) or as soon as the need for the additional classification or rate is identified, if the work has been authorized to begin.

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND RATE

## Section: 01 29 85.01

AUTHORIZED FOR LOCAL REPRODUCTION

### REQUEST FOR AUTHORIZATION OF ADDITIONAL CLASSIFICATION AND RATE

CHECK APPROPRIATE BOX  
 SERVICE CONTRACT  
 CONSTRUCTION CONTRACT

OMB Control Number: 9000-0089  
 Expiration Date: 10/31/2019

PAPERWORK REDUCTION ACT STATEMENT: Public reporting burden for this collection of information is estimated to average .5 hours 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 aspects of this collection of information, including suggestions for reducing this burden, to U.S. General Services Administration, Regulatory Secretariat (MVCB)/IC 9000-0089, Office of Governmentwide Acquisition Policy, 1800 F Street, NW, Washington, DC 20405.

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

<b>1. TO:</b> ADMINISTRATOR, WAGE AND HOUR DIVISION U.S. DEPARTMENT OF LABOR WASHINGTON, DC 20210		<b>2. FROM: (REPORTING OFFICE)</b>		
<b>3. CONTRACTOR</b>				<b>4. DATE OF REQUEST</b>
<b>5. CONTRACT NUMBER</b>	<b>6. DATE BID OPENED (SEALED BIDDING)</b>	<b>7. DATE OF AWARD</b>	<b>8. DATE CONTRACT WORK STARTED</b>	<b>9. DATE OPTION EXERCISED (IF APPLICABLE) (SERVICE CONTRACT ONLY)</b>
<b>10. SUBCONTRACTOR (IF ANY)</b>				
<b>11. PROJECT AND DESCRIPTION OF WORK (ATTACH ADDITIONAL SHEET IF NEEDED)</b>				
<b>12. LOCATION (CITY, COUNTY AND STATE)</b>				

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

NUMBER: _____	DATED: _____	
<b>a. LIST IN ORDER: PROPOSED CLASSIFICATION TITLE(S); JOB DESCRIPTION(S); DUTIES; AND RATIONALE FOR PROPOSED CLASSIFICATIONS (Service contracts only)</b> <small>(Use reverse or attach additional sheets, if necessary)</small>	<b>b. WAGE RATE(S)</b>	<b>c. FRINGE BENEFITS PAYMENTS</b>

<b>14. SIGNATURE AND TITLE OF SUBCONTRACTOR REPRESENTATIVE (IF ANY)</b>	<b>15. SIGNATURE AND TITLE OF PRIME CONTRACTOR REPRESENTATIVE</b>	
<b>16. SIGNATURE OF EMPLOYEE OR REPRESENTATIVE</b>	TITLE	CHECK APPROPRIATE BOX-REFERENCING BLOCK 13: <input type="checkbox"/> AGREE <input type="checkbox"/> DISAGREE

**TO BE COMPLETED BY CONTRACTING OFFICER (CHECK AS APPROPRIATE - SEE FAR 22.1019 (SERVICE CONTRACT LABOR STANDARDS) OR FAR 22.406-3 (CONSTRUCTION WAGE RATE REQUIREMENTS))**

- 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 3 copies to the Department of Labor)

SIGNATURE OF CONTRACTING OFFICER OR REPRESENTATIVE	TITLE AND COMMERCIAL TELEPHONE NUMBER	DATE SUBMITTED

PREVIOUS EDITION IS USABLE

STANDARD FORM 1444 (REV. 4/2013)  
 Prescribed by GSA-FAR (48 CFR) 53.222(f)



**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section covers the requirements and procedures if Allowances are included in the Contract.
- B. Allowances are not included in the Lump Sum Base Bid for a Lump Sum contract.
- C. Allowances have been set aside to complete elements of the Work that are within the general scope of work, but are not shown on the Plans or specified in the Specifications. Any and all unused portions of the stipulated Allowances will not be paid to the Contractor and shall be deducted from the Contract Amount at the Final Completion of the Project.
- D. Use of any funds allotted to Allowances is only for the Work of the Project. while Allowances are considered to be within the original Scope of Work, such items could not have been reasonably anticipated based upon the information available at the time the cost estimate was established. Use of such funds is not to be construed as including upgrading or enlarging the Scope of Work of the Project and its use is at the sole discretion of the Owner.
- E. All price quotes and scopes of work requested by the Owner through the Owner's Authorized Representative (OAR) for each Allowance item of work, shall be provided to and approved by the OAR prior to the Contractor proceeding with any such work. The Contractor shall provide a price quote within seven (7) Calendar Days of receipt of request by the OAR.
- F. The OAR will approve an Allowance item of work by issuance of a Change Order prior to the Contractor proceeding with such work. The Change Order will clearly define the Allowance item scope and agreed to pay amount.
- G. Contract Time extensions may not be executed under this process, but within the Change Order process. Any adjustment to the Contract Time shall be in accordance with Section 01 32 16, Construction Progress Schedule.

**1.2 ALLOWANCE SCOPE**

**ALL ALLOWANCES WILL BE DEFINED AND SPECIFIC TO EACH CONTRACT**

- A. Standby Time: This Allowance establishes 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 through the OAR.
- B. Differing Site Conditions: This Allowance establishes means to compensate the Contractor for changes in the various work areas/phases or Scope of Work as directed by the OAR to mitigate differing or unforeseen field conditions. The scope and associated compensation under this Allowance includes, but is not limited to:
  - 1. Additional demolition, relocation, or construction of necessary infrastructure to mitigate miscellaneous unforeseen conditions.
  - 2. Discovery of abandoned utilities from prior permanent or temporary Federal Aviation Administration (FAA) facilities, drainage structures abandoned in place, direct buried cabling, and similar items.

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3. Additional compensation to maintain and remove existing erosion control devices from previous projects and not included in the Contract Documents.
- C. Utility Investigation/Relocation: This Allowance establishes means to compensate the Contractor for Level A Potholing and modification in various work areas of the Project as directed by the OAR. The scope of this Allowance includes, but is not limited to:
1. Additional exploratory investigation and relocation of utilities.
  2. Other additional miscellaneous utilities requirements not included in the Scope of Work.
- Investigation of utilities shown on the Plans to confirm location and depth will not be considered part of this Allowance but is included within the Contract Amount.
- D. Supplemental Safety Measures: This Allowance establishes means 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 deemed necessary by the OAR to make traffic flow and protect aircraft that include, but are not limited to:
1. Barricades
  2. Haul Road signage and construction
  3. Sweepers
- E. Part 139 Measures: When the Work of the Project includes airfield work, this Allowance also includes labor, equipment, and materials as may be required to address FAA Part 139 inspection items, not already included in the Contract Documents.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

**4.1 MEASUREMENT**

Price quote and scope of work requested by the OAR for each Allowance item, shall be provided to and approved by the OAR prior to the Contractor proceeding with such 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 Measures
Pay Item 01 30 00-5	Part 139 Measures

**– END OF SECTION –**

## PROJECT MEETINGS

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### PART 1 – GENERAL

- 1.1 This Section includes the Contractor participation in the following conferences and meetings required for the Project:
  - A. Pre-Construction Conference
  - B. Site Mobilization Conference
  - C. Progress Meetings
- 1.2 PRE-CONSTRUCTION CONFERENCE
  - A. The Contract Administrator will schedule the “Pre-Construction Conference” after the Notice to Proceed (NTP) has been issued.
  - B. Attendance: Contract Administrator, Owner’s Authorized Representative (OAR), Architect/Engineer, Business Diversity and Development Department (BDD), other Airport departments represented as required, and the Contractor.
  - C. Agenda:
    1. Purpose of the meeting
    2. Brief Project description
    3. Project duration and milestones
    4. Introduction and explanation of functions of the Airport, the Airport personnel and organization (including responsibilities and authority)
    5. Owner 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
      - h. Project Safety
      - i. Project Safety Plan
    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

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- 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 a Request for Information (RFI)
  - d. Processing of Non-Conformance Report (NCR)
  - e. Coordination of Project Work with adjacent projects
  - f. Monthly Progress Photographs and Videos
  - g. Environmental Concerns and Drainage Control
  - h. Contract Modification and Claim Procedures
  - i. Completion of the Work and Punch List procedures
  - j. Record Drawings
  - k. Final payment and Closeout Procedures

#### 1.3 SITE MOBILIZATION CONFERENCE

- A. The OAR will schedule a conference at the Project site prior to Contractor occupancy.
- B. Attendance: OAR, Architect/Engineer, Contractor, and major Subcontractors.
- C. Agenda:

A standard agenda for the Project shall be determined based on the Project type. The standard agenda shall be coordinated between the Contractor's Authorized Representative (CAR) and the OAR at least one (1) week prior to the first meeting. A sample of a standard agenda for an airfield project follows:

- 1. Roadways use by the Owner's personnel, OAR, 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 scheduled weekly to monitor the progress of the Work.

## **PROJECT MEETINGS**

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- B. The OAR will be responsible for physical arrangements for meetings; prepare agenda with copies for participants.
- C. The OAR will preside at these meetings; record minutes, and will prepare and distribute copies of minutes.
- D. Attendance: Contractor's Authorized Representative (CAR), major subcontractors and suppliers, Architect/Engineer as appropriate to agenda topics for each meeting.
- E. 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. Non-Conformance Reports
  - 8. QA/QC
  - 9. Environment/Erosion Control/Utilities
  - 10. Correspondence
  - 11. Changes & Revisions (Pending CO, Potential CO, Problems)
  - 12. Application for Payment
  - 13. Airport Operations
  - 14. Code/Commissioning
  - 15. Other Business

### **PART 2 – PRODUCTS**

Not Used.

### **PART 3 – EXECUTION**

Not Used.

### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

1.1 SUMMARY

- A. This Section includes the administrative and procedural requirements for schedules and reports required for proper performance of the Work.
- B. A Construction Schedule shall be prepared and submitted by the Contractor for approval of the Owner's Authorized Representative (OAR) prior to the Contractor commencing with any construction activities.

1.2 REQUIREMENTS

- A. The Contractor shall prepare and maintain a Construction Schedule in accordance with the requirements of this Section. The requirement for a Construction 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 Milestones included in the Project Schedule as referenced in Section 01 11 00 - Summary of Work.
    - b. Monthly progress
    - c. Proposed Contract modifications
- B. The Construction 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 the Project's Scope of Work
  - 3. Respective WBS assignment for each Activity
  - 4. Summary Bar Chart-(Gantt Chart)
  - 5. Resource & cost loading – Refer to subsection 1.3.D for requirements.

The schedule cost loading must include the following:

    - a. Budgeted Cost
    - b. Cost to Date
    - c. (S-Curve) graphical report including: Contract amount line, Baseline curve, Milestone markers, Work-in-Progress, ETC Curve, EAC line.

The schedule resource loading must include identification of D/S/M/WBE contractors based on the contract commitment in Special Provisions Section 2.0 and as approved by Business Development & Diversity Department (BDDD).

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- a. Budgeted Cost associated with the D/S/M/WBE resource must be provided.
6. Planned cash flows based on early and late activity dates. Bi-weekly graphical reporting of Earned Value Cost actual cashflow vs. baseline plan.
  7. Responsibility Code by Company
- C. The Contractor shall provide a Construction Schedule suitable for planning, scheduling and reporting the Work to be performed under the Contract. The Construction 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 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.
- Acceptance of the planning software and version by the OAR shall be used for the Baseline Schedule, Construction Schedule, and any updates throughout the Project, unless a new planning software version is approved by the OAR.
- D. The Construction Schedule shall be resource & cost loaded at the WBS Summary Level if the period of Work from the Notice to Proceed (NTP) to Substantial Completion exceeds 12 months, or if the Contract Amount exceeds \$2.0 Million, or upon written notice by the OAR based on necessity to evaluate the Construction 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 Items or Schedule of Values (SOV) breakdown/milestone payments, as appropriate, for the Contract.
  3. Mobilization shall be loaded across a Level of Effort (LOE) activity and invoiced as required in Section 01 71 13.
  4. Period Cost and Cost to Date shall be coordinated between consecutive Payment 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 one or more Allowances, shall be added to the Construction 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.

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7. Notwithstanding paragraph D above, all schedules must include the D/S/M/WBE resource based on the contract commitment in Special Provisions Section 2.0 and as approved by BDDD and must include the associated cost.
  8. The Contractor shall include additional cost breakdown or information requested by the OAR at no additional cost.
  9. Refer to subsection 1.7.D.5.c for additional reporting requirements.
- E. The Construction 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. Calculate the schedule using the Retained Logic scheduling option.
  3. Define Critical Activities as; Total Float less than or equal to zero.
  4. Show Open-Ends as Non-Critical.
  5. Calculate Total Float as Late Finish – Early Finish.
  6. Calendar for scheduling shall be 7 days/week with no holidays considered.
  7. The use of Terminal Float or Buffering Activities within the Construction 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 % Complete Type should be as Physical.
  3. 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 to Completion (ETC) 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 be unique and 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 Activity 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.

Contract Time extensions for abnormal weather will be granted in accordance with subsection 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. Contract Time extensions granted for abnormal weather are not compensable.

- M. The Contractor shall not use the following types of logic relationships:

- 1. Negative lags
- 2. Positive lag in excess of ten (10) work days
- 3. Start-to-Finish relationships
- 4. Open ends.

Only the first activity will have no predecessor and only the last activity will have no successor.

- 5. Constraints.

The Contractor may use a limited number of constraints. An appropriate number of constraints is at the sole discretion of the Owner and will be established during Baseline Schedule submission/acceptance.

### 1.3 Not Used

### 1.4 SCHEDULE REPRESENTATIVE

- A. Within seven (7) Calendar Days after receipt of the 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 schedule representative cannot be replaced without the approval of the OAR.

### 1.5 BASELINE SCHEDULE

- A. The Contractor and major Subcontractors shall meet with the OAR immediately after the issuance of the NTP to jointly agree on guidelines, WBS, level of detail and summaries to be used in developing the Baseline Schedule. The Contractor must prepare a interim Baseline Schedule for this meeting showing in detail the activities

- to be accomplished during the entire Project. The interim Baseline Schedule will become the final Baseline Schedule upon approval of the OAR and shall not be revised for the remainder of the Project.
- B. The Baseline Schedule needs to include reasonable operational, seasonal, economic, weather, facility or manpower restrictions required for sequencing of Work.
  - C. The Contractor shall be responsible for assuring all work sequences are logical and the Baseline 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 Baseline Schedule shall not excuse the Contractor from completing all Work within the Contract Time.
  - D. The Baseline Schedule shall comply with the various limits imposed by the Contract Documents and by any contractually specified intermediate milestone dates and completion dates.
  - E. 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. The D/S/M/WBE contractors based on the contract commitment as approved by BDDD.
    - 5. Submittal review, procurement, fabrication, delivery, installation and testing of major materials and equipment.
    - 6. Access and availability to work areas.
    - 7. Manpower, material, space, and equipment constraints.
    - 8. Delivery of Owner-furnished equipment as applicable.
    - 9. Interfaces and dependencies with preceding, concurrent and following contractors.
    - 10. Cash flow curves showing the planned cash flow at each Payment Application including the cumulative cash flow for the Contract.
  - F. The Contractor shall submit the Baseline Schedule to the OAR and/or upload the Baseline Schedule into the Owner's database as directed by the OAR.

#### 1.6 ROLLING THREE WEEK LOOK AHEAD SCHEDULES

- A. A Rolling Three Week Look Ahead Schedule shall be submitted weekly and shall be the basis of the weekly Progress Meetings.
- B. The Rolling Three Week Look Ahead Schedule shall be the actual detailed work plan used by the Contractor in meeting the Project Schedule and Milestones.
- C. The basis of the Rolling Three Week Look Ahead Schedule shall be the updated Construction Schedule.

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- D. The Rolling Three Week Look Ahead Schedule shall display at minimum:
1. Activity ID & Description.
  2. Planned Activity Expected Duration and representative Dates.
  3. Physical Percent Complete.
  4. Activities or data for the previous week, current week, the and next two (2) following weeks.
  5. Indicator for Action Items that require resolution before execution of the Activity can occur.
  6. Indicator of all Critical Path activities with Total Float.
  7. Main/Immediate Milestones Status (Plan/Forecast).
  8. 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 Three 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:
1. Status of major WBS elements.
  2. Progress made on critical activities indicated on the Construction 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. Delays involving D/S/M/WBE contractors should be specifically addressed.
  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 Construction Schedule shall be updated bi-weekly until Final 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, Payment Application 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 Construction Schedule prior to the formal submittal.
- B. In case of disagreements concerning actual progress to date, the OAR's determination shall govern.

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- C. The Contractor shall update the Construction Schedule to reflect period and cumulative progress, and reflect any approved schedule revisions.
- D. The updated Construction Schedule shall be submitted and entered into the Owner's database within three (3) Calendar Days of the Construction Schedule status date, and with the corresponding Payment Application and early/late/actual cash flow curves, and shall include the following:
  - 1. A PDF file (.pdf) of the complete Construction 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 a schedule analysis along with calculations. The following is a minimum analysis to be reported: (Refer to subsection 1.2.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. Any variances related to D/S/M/WBE contractors should be specifically addressed.
  - n. The Contractor may include any other information pertinent to status of project.
  - o. The Contractor shall include additional status information requested by the OAR at no additional cost.
- 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. Refer to the requirements in the General Provisions and Special Provisions of the Contract to address these matters.
- F. If the Contractor's update of the Construction 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.  
  
A Recovery Schedule shall be submitted separate from the update of the Construction Schedule within seven (7) Calendar Days of identification of a recovery condition 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) Working Days of receipt of the interim Baseline Schedule for joint review of the proposed interim Baseline 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. If 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 shall be corrected by the Contractor with the Baseline Schedule or the next update to the Construction Schedule.
- C. The Contractor shall revise the interim Baseline Schedule in accordance with agreements reached during the joint review meeting of the interim Baseline

Schedule. The final Baseline Schedule shall be submitted in the same form and detail as the interim Baseline Schedule.

- D. Approval of the Baseline Schedule will be a condition precedent to any Progress Payment under the Contract.
1. All or part of any Progress Payment may be withheld for work performed prior to the approval of the Baseline Schedule. Approval of the Baseline Schedule will not be unreasonably withheld.
  2. All or part of any Progress Payment may be withheld for work performed during the subsequent progress periods without acceptance of the respective update to the Construction Schedule. Acceptance of any update to the Construction Schedule will not be unreasonably withheld.
  3. Acceptance of approval of the Baseline Schedule by the OAR does not relieve the Contractor of any of its responsibility for the accuracy or feasibility of the Baseline Schedule; however, to the extent that the approved Baseline Schedule is reasonable, it shall become a part of this Contract and defines the obligations of both the Contractor and the Owner to achieve a timely contract completion.
  4. If the approved Baseline Schedule indicates the Contractor's Finish Date will be prior to Final Completion, the Contractor and the Owner may execute a Change Order adjusting the Final Completion to coincide with the Contractor's planned Finish Date at no expense to the Owner.

#### 1.9 CONSTRUCTION SCHEDULE REVISIONS

- A. The update to the Construction Schedule to reflect Actual Progress to Date shall not be considered a revision of the Construction Schedule. All schedule revisions must follow the process prescribed for Contract changes in the General Provisions.
- B. The Contractor shall revise the Construction 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 Baseline Schedule logic.
  3. When the Contractor has received written approval from BDDD to add, remove or replace a D/S/M/WBE Contractor.
  4. When, in the opinion of the OAR, the Construction Schedule and supporting analysis is no longer representative for planning and evaluation of the Work.
- C. Submit any revision to the Construction Schedule in the same form and detail as the approved Baseline Schedule.
- D. The OAR must approve any revision to the Construction Schedule.

#### 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 (TIA) illustrating the influence

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of each change or delay on any specified intermediate Milestone and the current projected completion date.

1. The Contractor, as required by the General Provisions and Special Provisions of the Contract, shall notify the OAR of a change that may impact an intermediate Milestone or Final Completion.
2. Calendar for Time Impact shall be 7 days/week with no holidays considered.
3. Each TIA shall include a fragmentary network (fragnet) indicating all necessary logic, duration of impact, D/S/M/WBE resources affected, and demonstrate how the Contractor proposes to incorporate the change or delay into the current approved Construction Schedule.
4. The event times used in the TIA 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.
5. The TIA should include any additional supporting evidence that the OAR deems necessary.
6. A .pdf copy of the TIA shall be submitted and entered into the Owner's document control system or as otherwise directed by the OAR.
7. A Primavera P6 .xer of the Construction Schedule representing the impact calculations shall be submitted to the OAR.
8. A narrative in the same form and detail as the Construction Schedule update identifying all steps taken to calculate the impact and Recovery Schedule, shall be submitted to the OAR for review and acceptance.
9. Upon agreement by the Contractor and the OAR, the influence of changes and delays shall be incorporated into the next update of the Construction Schedule.
10. Where the OAR has not completed a determination of any Contract Time extension, or the OAR and Contractor are unable to agree as to the Contract Time extension due, the Contractor shall reflect that amount of time extension in the update to the Construction Schedule as the OAR may determine to be appropriate for such interim purpose. It is understood and agreed that any such interim determination shall not be binding upon either party for any other purpose and that, after the OAR has determined any Contract Time extension, the Contractor shall revise the update(s) to the Construction Schedule prepared thereafter in accordance with the final determination.
11. It is understood and agreed that schedule Float time is not for the exclusive use of either the Owner or the Contractor. Extensions of Contract 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 the available Float.
12. TIA related to a Contract Time extension and/or changed work shall be incorporated into and attached to the applicable Contract Change Order.

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**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 Construction 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 conform to 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 the logic within the Construction Schedule 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 Construction Schedule in the approved format.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



**PART 1 – GENERAL**

**1.1 SUMMARY**

This Section includes the administrative and procedural requirements for submittal of shop drawings, coordination drawings, product data and samples, to verify that products, materials, and systems proposed for use comply with provisions of the Contract Documents.

**1.2 SHOP DRAWINGS**

**A. Shop Drawing Requirements:**

1. Present drawings in a clear and thorough manner. Title each drawing with the Contract name and number; identify each element of the shop drawings by reference to sheet number and detail, schedule, or room number shown on the Plans.
2. Briefly and clearly identify field dimensions and field conditions; show relation to critical features, work, or adjacent products as applicable.
3. Shop drawings shall be of size and scale appropriate for their purpose and insofar as possible shall be uniform in size.
4. Shop drawings shall show design, materials (kind, thickness and finish), dimensions, connections, and other details necessary to ensure that they accurately interpret the Plans and Specifications, including adjoining work, in such detail as required to provide proper connection with the existing or adjoining work. Shop drawings shall not be reproductions of the Plans.
5. Shop drawings shall be numbered consecutively. Retain the numbering system throughout revisions.
6. Identification: All Shop drawings shall be identified with the Project name, building, or buildings for which shop drawings are being submitted. The Project name and Owner's Contract Number, Contractor's name, Subcontractor's name, date of submittal, drawing number, revision number, date of each revisions if any, as well as the Specification under which the work is to be performed and the drawing and detail numbers shown in the Plans that relate to the shop drawings.
7. Check and coordinate shop drawings of section or trade with requirements of other sections or trades as related and as required for proper and complete installation of the work.

**B. Shop Drawings Submittal Procedures:**

The Contractor shall submit shop drawings using the Skire Unifier software application or as otherwise directed by the Owner's Authorized Representative (OAR).

**1.3 PRODUCT DATA**

**A. Product Data Requirements:**

1. All product data in the form of manufacturer standard drawings, certificates, reports, catalog cuts, brochures, etc. shall be uploaded using the Skire Unifier software application or as otherwise directed by the OAR.

## SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

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2. All product data shall be clearly labeled to identify pertinent products or models.
  3. Product information shall show performance characteristics and capacities, dimensions and clearances as required, applicable wiring and piping diagrams and controls; and the specified finish.
  4. Product data in the form of a manufacturer's standard schematic drawings and diagrams shall be modified to delete information which is not applicable to the Work and should be supplemented to provide information specifically applicable to the Work.
- B. Product Data Submittal Procedures:
1. Product Data, Certificates, and Reports shall be submitted using the Skire Unifier software application or as otherwise directed by the OAR.

#### 1.4 SAMPLES

- A. Sample Requirements:
1. Samples shall be submitted from the same source, which will supply the actual product on the Project. Provide samples of sufficient size to clearly illustrate quality, functional, finish characteristics of product, with integrally related parts and attachment devices and full range of color, texture and pattern. In no case shall the sample be less than 4 inches x 4 inches.
  2. Where possible, all samples required for a particular Specification Section shall be submitted together. Manufactured products that generally degrade with time such as rubber, plastic, etc. shall have a production / assembly date of no more than 18 months prior to installation / assembly on the Project.
  3. In the event that a range of variations in texture, graining, color or other characteristics may be anticipated in furnished materials, assemblies, or elements of the Work, a sufficient number of samples of such materials or products shall be submitted to indicate the full range of characteristics which will be present in the materials or products proposed for the Work. Any such materials or products delivered or erected prior to approval of full range samples shall be subject to rejection by the OAR.
  4. Samples of materials or products, which are normally furnished in containers or packages, which bear descriptive labels or application or installation instructions, shall be submitted with such labels or instructions.
  5. Identification: All samples shall be labeled, tagged, or otherwise clearly identified. Labels or tags shall set forth the Project name, building or buildings for which the sample is being submitted, Contractor, Subcontractor, supplier, the name of the manufacturer, fabricator, or processor, the trade designation, grade and quality of the material or product, the date of submittal, and specific identification of each sample and a precise reference to the Specification Section and paragraph in which the material, product, or element of the Work is specified. Each label or tag shall have sufficient clear space to permit the application of the approval stamps of the Contractor and the OAR or the Architect/Engineer as required.
  6. Where appropriate, test data or manufacturers' certificates shall be referenced in and forwarded with the letter of transmittal. Samples without accompanying certificates or test data will be returned without action.

- B. Samples Submittal Procedure
1. The Contractor shall submit at least three (3) sets of each sample required to the Field Office or a site designated by the OAR. Submit one (1) additional sample for civil, landscape, structural, mechanical, electrical, baggage handling systems, and security/information technology/communications systems work.
  2. Upon completion of review, the OAR will return one (1) sample of each set of samples to the Contractor.
  3. Project Record Document Samples:
    - a. Items requiring submittal for color, texture or finish selection shall be included in Record Document Finish Manual in accordance with Section 01 78 39.
    - b. A sample of selected color, texture or finish shall be provided on sample chip at least 4 inches x 4 inches, suitable for adhering to cardboard page in Record Document Finish Manual.
    - c. Record sample shall match actual material installed.
    - d. The Contractor shall prepare record samples, assemble on pages, and submit in accordance with Section 01 78 39.
    - e. The Contractor shall submit two (2) copies of the Record Document Finish Manual.

#### 1.5 OWNER REVIEW

- A. The OAR or the Architect/Engineer will review the Contractor's submittal such as shop drawings, product data and samples, for conformance with the design, intent, and Specifications. During this phase, the OAR or the Architect/Engineer shall review and provide appropriate action code response or take other appropriate action on the submittal and return the reviewed submittal to the Contractor within 14 Calendar Days of receipt. Depending upon the complexity of the submittal, amount of review required, and number of concurrent submittals, the OAR will attempt to return submittals within shorter time frames whenever possible.
- B. The Contractor shall submit shop drawings, products data, and samples sufficiently in advance of scheduled installation dates to allow for the 14 Calendar Day review period, including consideration for the possibility of submittal rejection.
- C. All submittals will be tracked by the OAR using the Skire Unifier software application or other tracking mechanism as required.
- D. The OAR or Architect/Engineer review of any submittal will be for conformance with the Plans and Specifications. The Contractor shall be solely responsible for confirmation of dimensions and correlated at job site; information pertaining to the fabrication process or to techniques of construction; and for coordination of the Work for all trades.
- E. Contractor's Responsibility:
1. Any acceptance or other response of shop drawings, product data or samples shall not relieve the Contractor of responsibility for any deviation from the requirements of the Contract Documents unless the Contractor has informed the OAR or Architect/Engineer, in writing, of such deviation at the time of submission and approval has been given within the Skire Unifier software

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application to the specific deviation. Similarly, any approval or other response shall not relieve the Contractor from such responsibility for errors or omissions in the shop drawings, product data, or samples.

2. Any acceptance or other response of shop drawings and product data shall not relieve the Contractor of any responsibility, including responsibility for accuracy of dimensions and details, and for conformity of its drawings with the Plans and Specifications.
  3. The Contractor shall review all submittals for completeness, accuracy, and format concurrence with the Plans and Specifications prior to forwarding the submittal.
- F. Reviewer's Distribution and Approval:
- Following the OAR or Architect/Engineer's review of each submittal, comments and/or approval the submittal will be provided using the Skire Unifier software application.
- G. Contractor's Distribution:
- The Contractor shall distribute approved submittals using the Skire Unifier software application.

#### 1.6 COORDINATION DRAWINGS

- A. Coordination of Drawing Submittal Procedures:
1. Coordination drawings for each work area shall be submitted and approved before shop drawings are submitted. Shop Drawings submitted before coordination drawings have been approved will be returned without comment and marked "NOT ACCEPTED". Any resulting delays will be the responsibility of the Contractor.
  2. Prepare coordination drawings to indicate how work shown by separate civil, structural, mechanical, electrical, baggage handling system, security/information technology/communications systems shop drawings shall be interfaced, intermeshed and sequenced for installation.
  3. A minimum of three (3) weeks before materials are fabricated or work begun, submit complete coordination drawings prepared using 1/4" minimum scale with congested areas and sections through shafts at 3/8" minimum scale. Submit total sieving, piping, ductwork, electrical wiring and lighting, plumbing, fire sprinkler, baggage handling system, security/information technology/communications systems and HVAC coordination drawings.
  4. The Contractor shall be solely responsible for coordination of the Work. Every civil, structural, baggage handling system, security/information technology/communications systems, mechanical and electrical Subcontractor shall be responsible for coordination of its portions of the Work with the Contractor and with each affected trade.
  5. The Contractor shall schedule coordination meeting with Subcontractors to coordinate the Work for each work area. After coordination and corrections, each Subcontractor shall sign the originals of the coordination drawings. The Contractor shall submit coordination drawings to OAR for review indicating all conflicts that could not be resolved in coordination meeting. After review and

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approval by OAR or Architect/Engineer, the Contractor shall prepare shop drawings for each separate discipline, as required.

6. The Contractor shall coordinate with reflected ceiling plans exact location and dimensioning of exposed items, and items which occur within hung ceilings. In the event of a conflict, the Contractor shall request a clarification from the OAR and Architect/Engineer as to the correct locations of items in question prior to proceeding with fabrication or installation.
7. The Contractor shall prepare coordination drawings from drawings provided by the Subcontractors as follows:
  - a. Each Subcontractor shall prepare original drawings showing the respective work, layout, and type of the new and existing systems and lines along with supporting details of the new materials and systems including how the new work is integrated into the existing conditions. The submittal shall include any manufacturer's specification sheets for any associated equipment. The Subcontractor shall certify the drawings with the Subcontractor's signature prior to forwarding to the Contractor.
  - b. The Subcontractor responsible for the civil work shall indicate on the drawings any utility relocations.
  - c. The Subcontractor responsible for the fire alarm system shall indicate on the drawings the existing and new fire alarm components, fire alarm wiring to control panels.
  - d. The Subcontractor responsible for the baggage handling system shall indicate on the drawings the existing and new system equipment and rights of way.
8. The Contractor shall resolve conflicts between the submittals of the Subcontractors prior to submission.
9. The coordination drawings are for the OAR, Construction Manager (CM), and Contractor's use during construction and shall not be construed as replacing shop drawings or other Project Record Documents required by Contract Documents.
10. The review of coordination drawings by the OAR, CM, or Architect/Engineer shall not relieve the Contractor from the overall responsibility for coordination of the Work performed pursuant to the Contract.
11. Electronic media copies of CAD architectural or engineering data may be obtained from the Architect/Engineer upon approval of the OAR, for the express purpose of preparation of in-house coordination drawings or to use as the basis for preparing the Contractor and Subcontractor shop drawings by executing the required Release Form.
12. Provision of this CAD data is subject to both the terms described in this Section and on the Release Form.
13. The Contractor shall prepare composite shop drawings and installation layouts when necessary or requested to depict proposed solutions for field conditions. Coordinate in the field and with affected Subcontractors for proper relationship to the work of other Subcontractors based on field conditions.

**1.7 SCHEDULE OF SUBMITTALS**

- A. The Contractor shall furnish the OAR with a schedule of submittals, within 30 Calendar Days of receipt of the Notice to Proceed (NTP). This schedule shall indicate, organized by Specification Section, the items to be submitted, the anticipated item submittal date, and the approximate number of shop drawing sheets (when applicable) to be included in the submittal.
- B. Large and complex submittals may exceed the 14 Calendar Day review period as specified in the subsection 1.5. The OAR or Architect/Engineer shall identify these submittals (exceptions) upon receipt of the submittal schedule received from the Contractor.

**PART 2 - PRODUCTS**

**2.1 GENERAL SUBMITTAL PROCEDURES**

- A. The Contractor shall provide submittals promptly in accordance with approved schedule of submittals and in such sequence as to cause no delay in the Work. Only the Contractor shall submit submittals to the OAR or Architect/Engineer unless specifically approved by the OAR. The Contractor shall provide submittals using the approved Skire Unifier software application unless otherwise noted or directed by the OAR.
- B. The Contractor shall submit and upload shop drawings, and product data for structural, mechanical, fire protection and fire alarm systems, electrical, baggage handling systems, and security/information, technology/communications systems work using the Skire Unifier software application. The submittal shall be provided with a letter of transmittal contained within the approved Skire Unifier software application.
- C. The Contractor shall submit product samples for structural, mechanical, fire protection and fire alarm systems, electrical, baggage handling systems, and security/information, technology/communications systems work in the original packaging to the OAR. The submittal shall be provided with a paper letter of transmittal along with the sample submission.
- D. Any deviation from the Contract Documents shall be noted by the Contractor on the submittal with a detailed description of the deviation. Such a notation does not relieve the Contractor from complying with the requirements for a Substitution in accordance with Section 01 25 13.
- E. The Contractor shall not be relieved of responsibility for deviations in submittals from requirements of Contract Documents by the review of the OAR or Architect/Engineer unless the response provides specific written acceptance of the specific deviation.

**PART 3 - EXECUTION**

**3.1 CONTRACTOR REVIEW**

- A. The Contractor shall review each submittal prior to forwarding to the OAR, The Contractor shall determine and verify field measurements, field construction criteria, manufacturer's catalog numbers, and conformance of submittal with requirements of the Contract Documents.
- B. Coordinate the submittals with requirements of Work and of Contract Documents.

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- C. Apply the Contractor's stamp, sign and stamp cover sheet of shop drawings, stamp cover sheet for product data, and each sample label to certify compliance with requirements of Contract Documents. All submittals shall be uploaded using the Skire Unifier software application, except as noted in subsection 2.1 C., and any deviations from requirements of Contract Documents shall be noted.
- D. Submittals that include a product sample shall be provided to the OAR in accordance with subsection 2.1 C.
- E. The fabrication of products or beginning work prior to the return of any approved submittal that impacts such work is performed at the sole risk of the Contractor.
- F. Any submittal without the Contractor's stamp and a submittal which is considered incomplete, contain numerous errors, or has not been checked or only checked superficially, will be returned without comments. Any resulting delays shall be the Contractor's responsibility.
- G. The Contractor shall be responsible for quantities and dimensions shown on the submittal taken from Contract Drawings.

#### 3.2 RE-SUBMITTALS

- A. The Contractor shall provide re-submittals under procedures specified for initial submittals and all changes since previous submittal shall be noted.
- B. Shop Drawings and Product Data:
  - 1. Revise the original drawings or data, and resubmit as specified for initial submittal.
  - 2. Any revised drawing shall be noted with a revised or updated name or number in the title block.
  - 3. Indicate any changes which have been incorporated other than those requested by the previous review.
  - 3. Mark number of submission and resubmit to the OAR until the submittal is returned as "accepted".
- C. Samples: Submit new samples as required for initial submittal. Remove samples, which are not accepted or designated "RESUBMIT".

#### PART 4 - MEASUREMENT AND PAYMENT

Not Used.

- END OF SECTION -

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

This Section covers the requirements of the Contaminated Media Management Plan (CMMP) which provides the 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 the Airport.

### **1.2 SUBMITTALS**

The Contractor shall submit to the Owner's Authorized Representative (OAR) the following forms as noted in this Section:

- A. Excavation Soil Management Form
- B. Soil Transfer Request Form

### **1.3 REFERENCES**

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

- A. The Airport CMMP may be located at the following link:  
[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2\\_906633.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_906633.pdf)
- B. Texas Administrative Code (TAC): Title 30 Chapter 335, Industrial Solid Waste and Municipal Hazardous Waste.
- C. Code of Federal Regulation (CFR): Title 40 Part 131 Water Quality Standards

### **1.4 QUALITY ASSURANCE**

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

### **1.5 CONTAMINATED MEDIA MANAGEMENT PLAN**

- A. Refer to the complete CMMP located at  
[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2\\_906633.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_906633.pdf)
- B. No soil can leave or be brought onto Airport property unless approved by the Airport 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. Refer to the Plans for delineation of such work areas.
  - 2. The work area delineation shown in the Plans is based on known potential contaminants. The work area delineation may change as new information becomes available during the course of the Project.
  - 3. General Work Area
    - a. The Contractor shall monitor all excavated soil and materials for visual and olfactory evidence of contamination and contact the OAR immediately if potential contamination is encountered. The OAR will contact the EAD for direction.



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- b. The Contractor shall complete the Excavation Soil Management Form to track excavation activities and the transport of soil and submit the form to the OAR and the assigned EAD representative weekly.
  - c. The Contractor shall monitor any water that collects on the Project site for visual or olfactory evidence of contamination. If no evidence of contamination is observed, the Contractor may pump the water in accordance with the applicable Stormwater Pollution Prevention Plans (SWPPP) or Erosion Control Plans (ECP). If contamination is present, the Contractor shall contact the OAR who will obtain the sampling requirements from the EAD.
  - d. The Contractor shall be responsible for all sampling and disposal of such materials.
4. Area of Concern
- a. The Contractor shall sample the soil or field-screened every 50 cubic yards. The screening method is determined by the EAD based on the chemical of concern present onsite.
  - b. Photoionization Detector (PID)
    - 1) The PID shall be equipped with a 10.6 eV lamp or greater and the equipment calibration shall be conducted on a daily basis regardless of manufacturer's recommendations; and documented on the Excavation Soil Management Form.
    - 2) If the Contractor encounters any PID readings greater than 25 ppm, the Contractor shall stop work immediately and contact the OAR who will contact the EAD for direction. Field screening shall be conducted every 50 cubic yards and all field screening results must be submitted to OAR who will forward to the EAD for review. The Contractor shall be responsible for all sampling and disposal.
  - c. Laboratory Analysis

The Contractor shall collect samples every 50 cubic yards and submit to a National Environmental Laboratory Accreditation Certification (NELAC) certified laboratory for analysis. All analytical reports shall be submitted to the OAR who will forward to the EAD for review. The Contractor is responsible for sample collection and analysis.
  - d. The Contractor shall complete the Excavation Soil Management Form to track excavation activities, field screening results, and the transport of soil. This form shall be submitted to the OAR and the assigned EAD representative weekly.
  - e. The Contractor shall monitor any water that collects on the Project site for visual or olfactory evidence of contamination. If no evidence of contamination is observed, the Contractor may pump the water in accordance with the SWPPP or ECP included in the Contract Documents. If contamination is present, the Contractor shall contact the OAR who will obtain the sampling requirements from the EAD.
  - f. The Contractor shall be responsible for all sampling and disposal of such materials.

5. Remediation Area

- a. The Contractor shall return the soil back into the excavation whenever possible.
- b. All soil generated that cannot be placed back in the excavation shall be stockpiled and sampled to determine appropriate soil classification.
  - 1) Excavated soils shall be stored on, and securely covered by, 10 mil. plastic sheeting or a similar method to protect the soil from exposure to rain or storm water runoff (i.e. lined roll-off). Any such soil shall not be combined or co-mingled with soils from other work areas within the Project.
  - 2) The Contractor shall collect a soil sample every 50 cubic yards and submitted to a NELAC certified laboratory for analysis. All analytical laboratory reports shall be submitted to the OAR and EAD for review. The Contractor shall be responsible for all sample collection and analysis. Refer to page 27 in the CMMP for additional details.
  - 3) The Contractor shall complete the Excavation Soil Management Form to track excavation activities and the transport of soil. This form shall be submitted to the OAR and the assigned EAD representative weekly.
  - 4) Water that accumulates on the Project site shall be sampled and the sample 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 shall be submitted to the OAR and EAD for review. The Contractor shall be responsible for sample collection and analysis.

D. Soil Transfer

1. The CMMP identifies the following methods to transfer soil:
  - a. Deposit at an Airport stockpile area
    - 1) The Contractor shall complete the Environmental Authorization to Transfer Soil Form. The form shall be submitted to the OAR for EAD and the Design, Code, and Construction (DCC) Department review at least 48 hours in advance of scheduled deposition. The EAD and DCC must approve the request prior to any soil leaving the Project site.
    - 2) The soil must originate from either:
      - a) A general work area with no visual or olfactory evidence of contamination; or
      - b) An area of concern with either:
        - i. PID readings of 0 ppm; or
        - ii. Analytical samples with no detectible contaminants.

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- b. Remove from an Airport stockpile area
  - 1) The Contractor shall complete the Environmental Authorization to Transfer Soil Form. The form shall be submitted to the OAR for EAD and DCC review at least 48 hours in advance of scheduled removal. The EAD and DCC must approve the request prior to any soil leaving the Project site.
  - 2) The Contractor shall PID screen the soil every 50 cubic yards. PID readings must be below 25 ppm.
- c. Transfer between Airport project sites
  - 1) The Contractor shall complete the Environmental Authorization to Transfer Soil Form. The form shall be submitted to the OAR for EAD and DCC review at least 48 hours in advance of scheduled removal. The EAD and DCC must approve the request prior to any soil leaving or entering the Project site.
  - 2) The soil must originate from either:
    - a) A general work area with no visual or olfactory evidence of contamination; or
    - b) An area of concern with either:
      - i. PID readings below 25 ppm; or
      - ii. Analytical samples with no detectible contaminants; or
      - iii. Analytical samples below the Texas Risk Reduction Program (TRRP) residential standards and placed in a "capped" location
- d. Import material from off the Airport

The Contractor shall complete the Environmental Authorization to Transfer Soil Form. The form shall be submitted to the OAR for EAD review at least 48 hours in advance of scheduled delivery. The EAD must approve the request prior to any soil entering the Project site.
- e. Export material off the Airport
  - 1) The Contractor shall complete the Environmental Authorization to Transfer Soil Form. The form shall be submitted to the OAR for EAD review at least 48 hours in advance of scheduled removal. The EAD must approve the request prior to any soil leaving the Project site.
  - 2) The soil must originate from either:
    - a) A general work area with no visual or olfactory evidence of contamination; or
    - b) An area of concern with either:
      - i. PID readings below 25 ppm; or
      - ii. Analytical samples with no detectible contaminants; or

- iii. Analytical samples below TRRP residential standards and placed in a “capped” location.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**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 subsection 1.14.
- 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 subsection 1.11.
- D. Motor vehicles entering the AOA must display an AOA Access Permit and be in compliance with subsection 1.12.
- 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 Section 01 35 13.13.01.
- F. Prior to beginning the Project, the Contractor shall submit to the Owner’s Authorized Representative and the Airport 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 Contractor’s Authorized Representative (CAR) 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 Utilities on the Airport can cause degradation of aviation safety, and wide spread loss of the use of airport facilities and or services. Procedures concerning underground utilities location and protection are located in Section 01 18 16, 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 requirements 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 (OAR). 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 OAR. Failure by the Contractor or Subcontractor personnel to attend these mandatory meetings could result in AOA access being denied to those individuals.

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- K. The Contractor's designated Quality Control representative will conduct an "AOA Readiness Checklist" review with all personnel prior to crews entering the AOA. The AOA Readiness Checklist form is included in Section 01 35 13.13.01.
  - 1. The AOA Readiness Checklist is to be provided by the 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 the AOA Readiness Checklist is to reduce or eliminate superfluous travel to and from the work site due to Contractor's lack of initial readiness. The OAR 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 OAR, 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 the OAR. 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 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 are included in Section 01 35 13.13.01 for the Contractor's use, as applicable on the Project:
  - 1. Contractor's AOA Readiness Checklist
  - 2. Lockout Procedure for Airfield Series Lighting Circuits
  - 3. Lockout Log for Airfield Series Lighting Circuits
  - 4. Airfield Closure/Activity/Circuit Lockout Request Form
  - 5. Airfield Closure/Activity/Circuit Lockout Instructions
  - 6. Airport Construction Security Procedures Tool Management Plan
  - 7. AOA Escort Release/Pick up Point Notice/Instructions
  - 8. Airport Airspace Review Form

**1.3 CONSTRUCTION - AIRCRAFT MOVEMENT AREA**

- A. When construction is being performed within the Aircraft Movement Area (AMA), the following procedures will apply:
  - 1. All vehicle operators shall abide by the Airport Driving Handbook, published by the Operations Department and available at the following location:

<https://www.dfwairport.com/operations>.

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2. The OAR will provide notification to and obtain approval from Airfield Operations before entering the AOA and proceeding into the construction site.
3. Approval to enter closed areas within the Movement Area must be obtained from Airfield Operations Port Control.
4. A log of each vehicle entering and exiting the closed area shall be maintained by Port Control or his/her designee.
5. Contractors are required to obtain approval to clear a work site which must be compliant with these requirements.
6. The OAR will again notify Airfield Operations when the construction activity has been cleared of all personnel.
7. Summary of Notification Requirement: Notify the OAR in advance of commencement of the following work activities by not less than the number of calendar days shown:

<u>Activity</u>	<u>Notice (Days)</u>
1. Work Activities in AOA	Daily **
2. Airfield Operations Escort	2
3. Installation of Safety Area and Object Free Area boundary and Haul Route Markers	5
4. Temporary Lighting	5
5. Disconnect or Disabling of Power Circuits	5
6. Rerouting of ARFF Road	14
7. Runway/Taxiway Closure (First Notice)	30*
8. Runway/Taxiway Closure (Second Notice)	7
9. Crane Operations (FAA Approval)	60*
*Denotes "Notice" process initiated by the Airport ** Daily schedules of work activities, closures, and circuit lockouts within the AOA must be submitted in writing by email or other means to the Coordination Center.	

**B. Vehicle Operator**

1. As approved by Airfield Operations, contractors may designate personnel to complete Airport-approved training for driving within the AMA. Successful completion of the annual training includes passing all required tests.
2. Trained and qualified vehicle operators shall only drive routes within the AMA specified by Airfield Operations. These routes shall not include crossing of an active Runway or any portion of an active Runway Safety Area (RSA). Vehicle operators will not operate in the AMA during Surface Movement Guidance & Control System (SMGCS) Conditions (low visibility operations).
3. No vehicle shall operate unescorted within the AMA 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

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through an approved flagging operation.

4. All vehicles, unescorted and escorted, operating within the AMA 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 AMA-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 Airport Identification/Access Badge must escort any individual or group of un-badged 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 CAR, Contractor's Quality Control Representative, Safety Officer, and all Subcontractor superintendents, foremen, and lead men will be badged. Although other members of the construction work force may obtain an 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 AMA Driver's Certification on their person during all times driving unescorted within the AMA. That certification must be presented to an Airport Board employee upon request.
3. In order to sustain AMA driving privileges, a CMAE must ensure training (retraining) is completed within 12 calendar months of their initial or previous retraining session.
4. The vehicle operated by a CMAE during the performance of a vehicle escort within the AMA shall be clearly marked with "ESCORT" on both sides and on the back of the vehicle. The minimum height of the letters must be four (4) inches. Magnetic signs are acceptable.
5. A maximum of five (5) vehicles may be escorted for a total of six (6) vehicles including the escort.
6. Vehicle operators must have the ability to communication 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 Roads, restricted areas, and other vital information.
7. Dedicated escort requirements must be coordinated with Airfield Operations in



advance through the OAR.

- 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 AMA, 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 an Airport provided escort are identical to using an 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 (1) badged person for every five (5) 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.
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. An Escort 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

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being used will be conducted in a manner that the vehicles will be released at the designated point agreed to by the CMAE and the person being escorted. The release of the escort will be agreed to at the verbal briefing performed prior to the CMAE getting underway.

- G. Airport provided escorts must be coordinated with Airfield Operations in advance through the OAR.
- H. Contractors may perform an escort only along established Haul Roads 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 Roads.**

#### 1.4 HAUL ROADS

- A. Airfield Operations must approve the establishment of Contractor Haul Roads. Prior to approving Haul Road activities, the following must be established:
  - 1. Green flags or markers, not to be smaller than six (6) inches square mounted on wooden stakes no higher than 18 inches above the ground, must prominently mark each side of the Haul Road at intervals of not more than 100 feet apart.
  - 2. Stop signs (30 inches x 30 inches), 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 feet from the edge of the emergency road.
  - 3. In some cases, traffic control signal lights may be required for controlling Taxiway crossings. When signal lights 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. The signal 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 Road 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.

For active Taxiway crossings, flaggers shall have completed Airport-approved training concerning the AMA. Successful completion of the annual training

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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 CMAE 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 OAR 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, Navigational Aids (NAVAIDs), 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 included in Section 01 35 13.13.01.
- 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 the centerline
    - b. Runway Safety Area - 1000 feet off the end
    - c. Taxiway Object Free Area - 160 feet from centerline (193 feet for certain taxi routes)
    - d. Taxilane Object Free Area - 138 feet from centerline (up to 167 feet for certain taxi routes)
    - e. Within a NAVAID Critical Area (NCA)

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- C. Initial notification of intended airfield closures should be prearranged no less than 30 Calendar Days in advance, except where noted otherwise within the Contract Documents 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 Working Day prior to the holiday or weekend. The Contractor will complete an Airfield Closure/Activity/Circuit Lockout Request form, included in Section 01 35 13.13.01, and submit to the OAR with time to meet the requirement to receive the request to the Coordination Center by 11:00 a.m. Notification of cancellation of scheduled closures should be submitted 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 the Plans 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 a cross Taxiway intersecting at a Runway, 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.
- 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, any required construction equipment, materials, etc. shall be mustered on-site or at a designated area approved by the OAR 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 OAR 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 the OAR. **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 the OAR.
- 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.

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- G. Excavations within 10 feet of emergency roads shall be marked with lighted Type A barricades or Airport 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 Area (OFA), 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 OAR 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 OAR 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 five (5) orange cones with amber lights placed 50 feet inside of the closed area
- K. All marking, lighting, signs, flags, cones, barricades, and other safety related devices shall be maintained to 100 percent serviceability at all times.

**1.7 SAFETY AREAS**

- A. A Safety Area is the surfaces surrounding a Runway and Taxiway 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 the Aircraft Rescue and Fire Fighting (ARFF) vehicles and other heavy equipment, and supporting the occasional passage of aircraft without causing major damage to the aircraft.
- B. Safety Area dimensions are as follows:
  - 1. Runways: 250 feet either side of centerline, 1000 feet off each end.
  - 2. Taxiways: 107 feet either side of the centerline, total 214 feet side (131 feet from centerline on certain taxi routes).
- C. The Contractor may be required to immediately terminate his work within an RSA at the instructions of the OAR or Airfield Operations. Work may be performed outside an RSA without closure as long as weather minimums are not less than 1000-foot ceiling and/or 3 miles visibility.
- D. Barricades with lights will be required to mark the RSA adjacent to the actual work areas.
- E. 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

- A. An Obstacle Free Zone OFZ is a three-dimensional area involving imaginary surfaces in the vicinity of a Runway. 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.
- B. OFZ surfaces are as follows:
1. An inner-transitional surface OFZ begins at 200 feet from the 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, the surface rises vertically to an elevation of 23 feet above the 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.)
  2. An 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.
  3. Objects that do not penetrate the OFZ may still require approval by the Airport Operations Department based on the requirements contained in Federal Aviation Regulation Part 77.
- C. Object Free Area
1. An Object Free Area (OFA) is a two-dimensional area surrounding a Taxiway and Taxilane 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 a Taxiway or 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 a 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,

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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 (HSE) Taxiway unless that HSE Taxiway is closed.**

D. NAVAID Critical Area

1. Work will not be authorized within an NAVAID Critical Area (NCA) without specific approval by Airfield Operations.
2. NCAs include Runway ILS NAVAIDS and microwave signal paths.

E. Criteria for Marking Construction Sites, Safety Areas, OFA, and NCAs

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 subsection 1.6.H above.
2. Red markers or flags must prominently mark the boundary of a RSA and a Taxiway OFA. Prior to beginning any activity within 50 feet of the RSA or Taxiway OFA, the boundary shall be further marked with low profile barricades that are interconnected.
3. Yellow markers or flags must prominently mark the boundary of a Runway OFA (400 feet from a Runway centerline) and an NCA. 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 2 inches x 2 inches wooden stakes no higher than 18 inches above the ground. Each marker or flag must be placed no further apart than 50 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 markers or flags until the OAR have confirmed the correct placement.
6. The markers or 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 or flags designating a Safety Area, OFA, or NCA without the approval of the OAR as obtained from Airfield Operations on a case-by-case basis except when the associated Runway or Taxiway/Taxilane is closed.
8. Markers or flags shall be removed when directed by the OAR or when work within these areas is completed.

F. 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).



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- b. Within 1000 feet from the 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 permitted within the boundaries of the AOA; however, the Contractor may submit a request to the OAR for a stockpile within the AOA. When such a stockpile is permitted, it shall be 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 OFA Extension).
    - e. Within an NCA.
  3. All trenches, excavations, and stockpiles must be prominently marked and lighted.
- G. Staging of Construction Equipment
  1. Construction equipment is not permitted to be staged (stored) within the boundaries of the AOA; however, the Contractor may submit a request to the OAR for equipment storage within the AOA. When such an authorization has been obtained, 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 OFA Extension).
    - e. Within an NCA.
  2. All construction equipment authorized to be staged (stored) within the boundaries of the AOA, must be prominently marked and lighted as directed and approved by the OAR.
- H. 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 are prohibited without prior approval of the Airport.
  2. The Contractor shall provide advanced notice for the use of such equipment at any location on the Project site. The Contractor shall complete and submit to the OAR the Airport Airspace Review Form included in Section 01 35 13.13.01.
  3. No such equipment shall be transported onto the Airport site prior to the approval of Airfield Operations through the OAR.
  4. 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

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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  $2000 \pm 25\%$  candela.

5. This equipment shall be lowered to its stowed height when not in use or as directed by the OAR in concurrence with Airfield Operations.
- I. Maintenance of Construction Areas
    1. Construction boundaries shall be clearly defined and marked/fenced as directed by Airfield Operations.
    2. The Contractor shall be responsible for maintaining construction areas to the same standards used on the remainder of the airfield including such items as:
      - a. Maintaining grass height of 6 inches to 10 inches.
      - b. Maintaining the work area to remain 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

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

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 the Airport. 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 with escort authority.

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- 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 Working Day, through the OAR, 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 staffed gates to gain access to the AOA provided coordination has been made through the OAR and the DPS. The Contractor may also request approval from the Airport Operations Department and the DPS 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 a DPS approved lock. Gates in the Central Terminal Area (CTA) will require Access Control equipment and will be manned by DPS Security Officers. Gates not located in the CTA will also be manned by DPS Security Officers.
- H. The Contractor will be responsible for funding and coordination of staffing with DPS and the OAR. Additionally, the Contractor will be responsible for installing an air conditioned and heated security post, restroom and telephone. Specifications for guard houses may be obtained from the Airport Design Criteria Manual. Any exceptions will be at the discretion of the DPS.
- I. All AOA gates, that are not automatic or manned, shall be secured with a single Airport locking mechanism.
- J. The use of Contractor provided locks in place of or in addition to Airport locks is specifically prohibited. The DPS will not issue an AOA gate key to the Contractor or any Subcontractor on the Project.
- 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 shall be responsible for the funding and coordination of staffing with DPS. The DPS provides Police or Security Officers from the off-duty employment pool. Contact the DPS Airport Security Staffing Coordinator (972-973-4710) or by email at [asi@dfwairport.com](mailto:asi@dfwairport.com).
  - 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 related to the Project. Unauthorized entry shall be reported immediately to the DPS and the AOC.
- L. Entrance through Terminal Security Gates in the CTA may be permitted under the following conditions:
  - 1. Unescorted access through 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. A person issued an Airport Identification/Access Badge with "access" must

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present their badge to the DPS Airport Security Officer or DPS authorized representative for validation.

3. A person issued an Airport Identification/Access Badge with "access" authorization but does not have the badge in their possession or a person issued a badge without "access" authorization shall not be permitted to enter the AOA through a Terminal Security Gate even under escort.
4. A person who does not possess a valid Airport Identification/Access Badge or has 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 individual will be documented on 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 (1) Airport Identification/Access Badge individual with escort authority to five (5) 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 inspection 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 authorized signatory.

#### 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 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 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 proper authorized escort.
- D. The ACO administers Airport Identification/Access Badges and is managed by the DPS: 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 ACO and coordinated with the OAR. Copies of the application may be obtained from the OAR. Instructions for filling out the form are on the back of the form. 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 on-line to the ACO located at Terminal D, on the departure level, between Gates 19 and 22.
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, the employees of the Contractor shall be responsible for immediately surrendering the Airport Identification/Access Badge to the authorized signatory.
3. The Contractor shall be billed a non-returned badge fee for all badges not returned to the ACO within ten (10) Working Days from the date the ACO 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, the person will be immediately escorted from the SIDA/AOA or detained by DPS.

G. Authority

1. The authority to produce and issue an Airport Identification/Access Badge 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/Access Badge.
4. The Airport Identification/Access Badge is the sole property of the Airport and issued for the exclusive use of the individual identified thereon.
5. The Airport Identification/Access Badge must be surrendered for inspection upon request of an authorized agent of the Airport.

1.12 AIR OPERATIONS AREA 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 agent of the Airport, the FAA, or tenant responsible for the AOA gate through which the person is to enter.

- B. The ACO administers Access Permits for the AOA.
- C. A permanent Access 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 (3) 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
    - a. An application for an Access Permit shall be submitted in the manner prescribed by the DPS and coordinated with the OAR. Copies of the application may be obtained from the OAR or the DPS webpage at: <https://www.dfwairport.com/badge/>
    - b. An application for an Access Permit approved by the sponsoring Airport department shall be submitted to the ACO for issuance. **Note: Contact the Airport Risk Management Office for insurance requirements necessary to obtain a vehicle permit.**
  - 3. Revocation
    - a. Violation of the AOA Rules and Regulations is grounds for immediate revocation of AOA vehicle access authority.
    - b. Upon termination or upon conclusion of the requirement to access the AOA, the employer/holder shall be responsible for surrendering the Access Permit to the Airport.
  - 4. Authority
    - a. The authority to produce and issue an Access Permit lies solely with the Airport.
    - b. No person shall produce, copy, issue or use a similar permit at the Airport.
    - c. No person shall in any way alter an Access Permit.
    - d. An Access Permit is 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
  - 1. 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.

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2. No motorized vehicle shall enter the AOA unless such vehicle displays an Access Permit issued by the Airport, or is under proper escort.
  3. All traffic within the AOA shall comply with all lawful orders, signals, or directions of any authorized agent of the Airport. When signs or pavement markings control such traffic, they shall be obeyed unless otherwise directed by an authorized agent of the Airport.
- B. Safe Operation of Vehicles:
1. 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, the vehicle operator must complete the Airport Driver Training Program on AOA Awareness and/or Nonmovement Area driving. For activities in the west airfield, the vehicle operator 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 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 AMA; 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 an authorized 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 DPS.
    - 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 DPS, Airfield Operations, the OAR, and other authorized agents of the Airport.
  6. Involvement of Vehicles in Accidents:

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 submit a report of that accident

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to the DPS.

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:

All motor vehicles on the AOA shall yield the right-of-way to aircraft in motion under all conditions, and all 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 AMA. 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 AMA.

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 AMA 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 AMA 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.



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- 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 feet 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 feet. Therefore, extreme caution must always be exercised whenever passing behind large jet aircraft.
- K. Fueling or De-fueling of Vehicles:  
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:  
Vehicles operating on a Runway or Taxiway that do not require an escort must display an amber-rotating beacon.

**1.14 ENFORCEMENT OF AOA PROCEDURES**

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. Airport Rules & Regulations) or his/her designated representative(s) and depending on the severity of the violation, result in the following:

- A. A verbal and/or written warning.
- B. The individual or vehicle in violation being temporarily or permanently removed from the AOA.
- C. The Contract work being stopped until corrective measures are taken to preclude a recurrence of the violations.
- D. Civil and/or criminal penalties per applicable local, state, and federal laws and the 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 Code of Rules and Regulations (Administrator) 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 DPS shall be responsible for the enforcement of the Code of Rules and Regulations.
- B. Enforcement of AOA Boundary Crossing Regulations
  - 1. Violations

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- 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/her 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 authorized 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 considered necessary for the immediate enforcement of the order.
2. The Administrator shall include in a notice issued under this subsection:
    - 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 holder must be personally served by the Administrator or on notice sent by certified United States mail, five (5) day return receipt requested, to the holder or the holder's designated representatives.

    - a. A driver must be personally served by the Administrator or notice sent by certified United States mail, to the address last known to the Administrator of the person to be notified, or to the designated representative for the driver.
    - b. Service executed in accordance with this subsection 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 subsection. 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, and avoid surface incidents and Runway Incursions at all possible cost. Should a surface incident or Runway Incursion occur due to the Contractor's negligence, it will constitute a violation and shall be subject to enforcement per subsection 1.14. Entry into the AMA without a CMAE or authorized Airport provided 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 RSA 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 his/her authorized designee will review the facts surrounding movement area surface incidents and/or Runway Incursions including the affected Contractor 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 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

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A Project monetary bonus incentive in the amount of \$50,000 (“Surface Incidents and Runway Incursions Prevention Bonus”) may be added to the monies owed the Contractor under the Contract, should the Project be completed without any surface incident and Runway Incursion within the Contract Time and the option is included in the Contract Documents. 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.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# MINIMUM STANDARDS FOR CONSTRUCTION AND MAINTENANCE ON THE AOA – FORMS AND INSTRUCTIONS

## Section: 01 35 13.13.01

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### PART 1 – GENERAL

- A. This Section provides the forms and instructions provided for the Contractor's use, as applicable, for performing the Work of the Project in coordination with Section 01 35 13.13.
1. Contractor's AOA Readiness Checklist
  2. Lockout Procedure for Airfield Series Lighting Circuits
  3. Lockout Log for Airfield Series Lighting Circuits
  4. Airfield Closure/Activity/Circuit Lockout Request Form
  5. Airfield Closure/Activity/Circuit Lockout Instructions
  6. Airport Construction Security Procedures Tool Management Plan
  7. Escort Release/Pick up Point Notice/Instructions
  8. Airport Airspace Review Form

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**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 the Contract Documents, including Plans, Specifications, any Project Addenda, construction permit copy, safety plan, SWPPP copy, approved submittals and Request for Information in their vehicles and available at all times on the Project 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 Working Day. This checklist should be attached to the Contractor’s Daily Activity Report and submitted to the Owner’s Authorized Representative.

Contractor’s Authorized Representative signature \_\_\_\_\_ Date: \_\_\_\_\_

Owner’s Authorized Representative signature \_\_\_\_\_ Date: \_\_\_\_\_

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## LOCKOUT PROCEDURE FOR AIRFIELD SERIES LIGHTING CIRCUITS

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 Airport employees and Contractors.
2. Definitions and Abbreviations
  - A. AM - abbreviation for "Airport 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 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 "Airport 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 AM, 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 pad lock on

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- 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 a weekend (normally that will be Thursday).
  - D. If a lockout and/or un-lock is to be scheduled on a 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.



# MINIMUM STANDARDS FOR CONSTRUCTION AND MAINTENANCE ON THE AOA – FORMS AND INSTRUCTIONS

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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 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

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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

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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

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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 Airport Manual "Lock Out / Tag Out & Confined Entry." Following the appropriate procedures outlined will ensure compliance with the requirements of Federal 29 CFR 1910.147, "Control of Hazardous Energies."

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**LOCKOUT LOG FOR AIRFIELD LIGHTING CIRCUITS**

<b>CIRCUIT NUMBER</b>	<b>DATE</b>	<b>TIME</b>	<b>MEGGER READING</b>	<b>CONTRACTOR'S REPRESENTATIVE</b>	<b>FIRM</b>	<b>24 HOUR CONTACT PHONE</b>	<b>ASSET MGMT</b>	<b>DCC or CM REP.</b>	<b>24 HOUR CONTACT PHONE</b>
	OUT								
	IN								
	OUT								
	IN								
	OUT								
	IN								
	OUT								
	IN								
	OUT								
	IN								
	OUT								
	IN								
	OUT								
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	OUT								
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	IN								
	OUT								
	IN								

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

**E-MAIL TO: coordinationcenter@dfwairport.com**

Submitted By:		Number of Pages:
Revision No:		Date/Time of Request
Project No./Project Name		
Contractor:		Construction Manager:
Contractor Phone/Fax:		CM Phone/Radio Call Sign:
<b>AOA CLOSURE / ACTIVITY REQUEST</b>		
<b>FROM</b>	<b>TO</b>	<b>CLOSURE / ACTIVITY AREA</b>
<b>CIRCUIT LOCKOUT REQUEST</b>		
<b>FROM</b>	<b>TO</b>	<b>CIRCUIT(S)</b>
Scheduled Activities:		
Additional Requests/Comments:		

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**AIRFIELD CLOSURE/ACTIVITY/CIRCUIT LOCKOUT INSTRUCTIONS**

This form must be submitted by the Owner's Authorized Representative (OAR) 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 an Airport 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 OAR 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 Contractor (Prime or General).
- Project Manager: Name of individual responsible for Construction Contract.

Note: Any references to the Owner's Authorized Representative (OAR) may be interpreted to mean the Airport representative for an Airport managed contracts, the staff representative on ADD projects or the FAA 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.
- 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.

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- 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 OAR will retain responsibility for ensuring contract compliance, project scheduling and coordination, communications between the Contract and the Airport Operations Dept. and the Airport Maintenance Dept. The CCR will not resolve any Contract and technical disputes. All situations relating to problems with electrical circuitry or the Airport's operational requirements shall be handled between the affected Airport Departments, OAR, or Contractor's Authorized Representative (CAR) responsible for the Project.



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**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: Airport Police Assistant Chief  
Construction Manager

Title Page 1 of 1

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## AIRPORT CONSTRUCTION SECURITY PROCEDURES TOOL MANAGEMENT PLAN

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/AOA). 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 Subcontractor must designate a tool box monitor.
- Consult the “Prohibited Items” list at <https://www.tsa.gov/>.
- The Contractor’s Safety/Security Officer will prepare the tool box inventory form, which must be completed by each Subcontractor and kept in the tool box at all times.
- Each Subcontractor 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 Subcontractor’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 Subcontractor’s tool box monitor.
- All hand tools will be checked out on the tool inventory list to an individual worker by the Subcontractor’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 Subcontractor’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 Subcontractor 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.

## MINIMUM STANDARDS FOR CONSTRUCTION AND MAINTENANCE ON THE AOA – FORMS AND INSTRUCTIONS

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- The Subcontractor'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 OAR.
- 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: Airport DPS Communications at 972- 973-3210. 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.
- 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. 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.

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### 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 Airport Access Control Office located in Terminal D. Information and badge applications are available on the Airport Department of Public Safety web page <https://www.dfwairport.com/dps/>.
- 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.**

### PROCEDURES IN 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 the Airport to enter the AOA.
- **The CONTRACTOR'S Safety/Security Officer will monitor the construction area on a daily basis.**

**DFW**

RELEASE / PICK UP POINT

**NOTICE!**



**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 12-31-07*

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**AIRPORT 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: \_\_\_\_\_

Airport Operations Dept. \_\_\_\_\_ Date: \_\_\_\_\_

\* The FAA Regional Office must review temporary structures exceeding 753 ft. AMSL.

\*\* Measured parallel to a Runway from proposed structure to nearest Runway threshold.

\*\*\* Measured from proposed structure to the Runway centerline.

The Airport Contacts will be identified in the Pre-Construction Meeting.

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**AIRPORT AIRSPACE REVIEW  
CRANE/EQUIPMENT OPERATION AREAS ( \_\_\_\_\_ ) HEIGHT**

Coordinate Point	Latitude	Longitude	AMSL at Point	Object AMSI
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				

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**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



# HOT WORK OPERATIONS AND CONTROL

Section: 01 35 23

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## PART 1 – GENERAL

### 1.1 SUMMARY

- A. This Section covers the requirements of the Contractor for use of Hot Work operations on the Project Site.
- B. Hot Work operations shall include any cutting, welding, thermal welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of roof systems requiring the use of a torch or any other open flame device or any other similar operation.

### 1.2 REFERENCES

- A. Code of Federal Regulations (CFR) 29 CFR 1910, Subpart Q – Welding, Cutting and Brazing
- B. National Fire Prevention Association (NFPA) 51B, Standard for Fire Prevention During Welding, Cutting, and Other Hot Work

### 1.3 PERMIT

- A. The Contractor shall not begin any Hot Work operations on the Project prior to receiving the approved Hot Work Permit from the Airport Fire Prevention and Planning Department.
- B. The Contractor may obtain the Hot Work Permit from the Airport Fire Prevention and Planning Department or from the following link:  
[http://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2\\_145643.docx](http://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_145643.docx)
- C. The Contractor shall complete the form and submit to the Airport Fire Prevention and Planning Department for review and approval.
- D. The Airport Fire Prevention and Planning Department shall record and approve the Hot Work Permit and notify the Contractor when approved.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 REQUIREMENTS

- A. The Contractor shall employ and utilize only qualified individuals to perform Hot Work operations on the Project.
- B. The Contractor shall perform all Hot Work operations in accordance with the requirements of the Airport Hot Work Permit; 29 CFR 1910, Subpart Q - Welding, Cutting and Brazing; and NFPA 51B – Standard for Fire Prevention During Welding, Cutting, and Other Hot Work.
- C. Smoking or any type of open flames are not permitted in the work area and clearance to such sources shall be maintained in accordance with the reference documents in subsection 3.1 B.

### 3.2 FIRE WATCH

- A. The Contractor shall provide and assign a designated Fire Watch for each location and occurrence where Hot Work is performed as part of the Project.

## HOT WORK OPERATIONS AND CONTROL

### Section: 01 35 23

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- B. The Contractor shall provide and post one (1) or more Fire Watch personnel during such operations and maintain such personnel for at least 30 minutes after operations have ceased. Fire watch personnel shall monitor the entire Hot Work area.
- C. Fire Watch personnel shall possess at least one (1) functioning fire-extinguisher and be trained in use of such equipment. The fire-extinguisher shall meet or exceed a fire extinguisher rating of 2A:20B:C and shall not be located beyond 30 feet from such work.
- D. Each Fire Watch shall be trained in accordance with NFPA 51B.

#### 3.3 WORK AREA SAFETY

- A. The Contractor shall inspect the work area prior to start of operations to ensure the area is safe for performing Hot Work operations and familiarize the personnel involved in such work with the location of the nearest fire alarm box and record the emergency number(s) advertised at that location for all personnel.
- B. The Contractor shall prepare a pre-Hot Work check report and the report shall be available on site at least 48 hours prior to operations.
- C. The Contractor shall provide adequate signage in accordance to the reference documents in subsection 3.1 B.
- D. The floor in the work area shall be maintained in a clean condition and the work area shall be free of any combustible materials, otherwise appropriate shielding shall be provided and installed prior to the start of such operations.
- E. The Contractor shall not perform any such work on any containers or equipment that contain, or have contained, flammable liquid, gas, or solid materials until the container or equipment has been thoroughly cleaned and lines purged of any such material.
- F. Where the work requires wet hose lines, the hose lines shall be connected, charged, and ready before and during all such operations.
- G. Refer to the Hot Area Permit instructions for more stringent requirements in the Aircraft Operations Area (AOA) and additional instructions and requirements.

#### PART 4 – MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL****1.1 SUMMARY**

This Section covers the requirements for asbestos surveys, abatements, reporting and training regarding the work at the Airport. This Section shall be conducted in accordance with other Specification Sections, regulations promulgated by the Environmental Protection Agency (EPA) and the Occupational Safety and Health Act; guidance set forth in the National Institute for Occupational Safety and Health (NIOSH); the Texas Administrative Code (TAC); and any other applicable Federal, State, and local government regulations. Whenever a conflict or overlap of the above references may exist, the most stringent provisions are applicable. Any variances from this Section or any of the supporting documentation must have prior approval from the Airport Environmental Affairs Department (EAD).

**1.2 RELATED REQUIREMENTS**

- A. Section 01 74 19, Construction Waste

**1.3 REFERENCES**

The following is a list of standards and codes which may be referenced in this Section:

- A. Texas Administrative Code (TAC): Title 25 Part 295 Chapter C Texas Asbestos Health Protection Rules.
- B. Code of Federal Regulations (CFR):
  - 1. Occupational Safety & Health Act:
    - a. Title 29 Part 1926.1101, Construction Asbestos
    - b. Title 29 Part 1926.134, Respiratory Protection
  - 2. Environmental Protection Agency (EPA):
    - a. Title 40 Part 61, Subpart M, National Emission Standards for Asbestos (NESHAP).
    - b. Title 40 Part 763, Asbestos Hazard Emergency Response Act of 1986 (AHERA).
  - 3. Department of Transportation: Title 49 Part 171 & 172, Transportation of Hazardous Materials.

**1.4 DEFINITIONS**

- A. Asbestos: Asbestiform varieties of Chrysotile, Amosite (Cummingtonite/grunite), Crocidolite (Riebeckite), Anthophyllite, Actinolite, and Tremolite.
- B. Asbestos-Containing Material (ACM): Any material containing more than one percent asbestos.
- C. Poly Sheeting: Six (6) mil. poly sheeting.
- D. Preparation for Abatement Work: The Texas Department of State Health Services (TDSHS) defines the term preparation as including, but not limited to:
  - 1. Pre-cleaning; sweeping; wet wiping; High Efficiency Particle Arresting (HEPA) vacuuming; sealing penetrations and openings; installing polyethylene; installation of isolation barriers (critical barriers, demising/dividing walls, etc.);

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installation of any part of a decontamination enclosure system or any part of the water line connections to the shower, drains, and/or filtration; installation, set-up, or use of any load-out/bag-out systems; installation, maintenance, or selection of respiratory systems or fiber reduction systems (i.e.: misting, spraying, etc.); positioning of warning signs; or

2. Installation of engineering controls (local exhaust ventilation equipped with HEPA filter dust collection systems, constructing enclosures or isolation mechanisms to control processes producing asbestos dust, ventilation of the regulated area to move contaminated air away from the breathing zone of employees and toward a filtration or collection device equipped with a HEPA filter); installation of scaffolding (in an area that may disturb asbestos during the installation); installation, set-up, calibration, and etc. of monitoring devices (including sampling systems and manometers); or
  3. Removal of any item from a space within a public building, once the Contractor, or the Abatement Subcontractor, takes control of that space. Removal of an item (fixture, furnishing, etc.) that is in no way contaminated with asbestos, or does not pose a risk of asbestos disturbance by its removal, is permitted if done prior to allowing the Contractor, or the Abatement Subcontractor, to occupy or take control of the space.
- E. Presumed Asbestos-Containing Material (PACM): Any material, yet to be sampled using Polarized Light Microscopy (PLM), containing an unknown amount of asbestos.

#### 1.5 SUBMITTALS

- A. Asbestos Survey Requests. The Contractor shall fill out and submit an "Asbestos Survey Request Form". This form may be located at the following link:  
[https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2\\_952134.pdf](https://www.dfwairport.com/cs/groups/webcontent/documents/webasset/p2_952134.pdf)
- B. Abatement Submittals: If the Contractor requires PACM or ACM removed on the Project, the Contractor shall submit the following:
1. Abatement Notification. The Contractor, or the Abatement Subcontractor, shall provide the following information to the EAD, at least 20 Working Days prior to the abatement start date.
    - a. Type of abatement work
    - b. Abatement Work Schedule
    - c. Demolition Work Schedule – OPTIONAL
    - d. Asbestos Amounts
    - e. Abatement Subcontractor Information
    - f. Abatement Subcontractor Supervisor Information
    - g. Abatement worker Information
    - h. NESHAP Training Individual Information
    - i. Demolition Subcontractor Information – OPTIONAL
    - j. Waste Transporter License

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2. Contractor Pre-Abatement Submittals. The Contractor, or the Abatement Subcontractor, shall provide the EAD with current copies of the following documents listed below at least 20 Working Days prior to the abatement start date.
    - a. Abatement Subcontractor
      1. TDSHS Asbestos Abatement Contractor License
      2. Respirator Protection Program
    - b. Materials specification, including Safety Data Sheets (SDS) for chemical used for abatement activities.
    - c. Equipment certificates
    - d. One million dollars of insurance coverage for environmental spills and releases.
    - e. Waste Transporter
      1. TDSHS waste transporter license
      2. One million dollars of insurance coverage for environmental spills and releases.
  3. Post Abatement Documentation. The Contractor, or the Abatement Subcontractor, shall provide all abatement relate documentation to the EAD within 30 Calendar Days of the abatement end date.
    - a. Abatement Supervisor(s)/Worker(s)
      1. TDSHS licenses/registrations
      2. EPA certifications/accreditations
      3. TDSHS Physician's Written Statements
      4. Respiratory Fit Tests
      5. Any specialized training – IF APPLICABLE
      6. Any amendments to the abatement project submittals
- C. Safty Data Sheets
- The Contractor shall submit an electronic version of the SDS for all building materials to the Owner's Authorized Representative (OAR) for review by the EAD prior to closure of the building permit.
- D. Correspondence between the regulatory agencies and the Contractor (and/or any Subcontractor) regarding Work at the Airport.
1. The EAD shall be the sole agency to correspond to the TDSHS regarding any work at the Airport.
  2. All correspondence received by the Contractor related to work at the Airport shall be submitted to the EAD within 24 hours.

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#### 1.6 QUALIFICATIONS

A. General Construction Work

All onsite construction personnel who potentially work near ACM are required to have two (2) hours Asbestos Awareness training as required by 29 CFR 1926.1101.

B. Asbestos Abatement Areas

All asbestos abatement personnel shall be appropriately licensed or registered in accordance with the Texas Asbestos Health Protection Rules (TAHPR). Onsite personnel shall have their current license and supporting documentation while onsite and readily available upon request.

C. Asbestos Transport

The Contractor, or the Abatement Subcontractor, shall be appropriately licensed in accordance with the TAHPR while transporting any asbestos waste.

D. Competent Person

The Contractor, or the Abatement Subcontractor, shall designate a “competent person” having the qualifications and authority required by 29 CFR 1926.1101.

#### 1.7 ASBESTOS SURVEYS & ASBESTOS REMOVAL PLANS

- A. If required for the Project, an Asbestos Survey will be provided by the OAR prior to the start of the abatement work. The document will discuss the areas that were inspected, materials that were observed, any PACM/ACM that was discovered, the condition of any PACM/ACM and locations of the PACM/ACM. The document shall be communicated with the Contractor, the staff, all Subcontractors, and shall be onsite and readily viewable to all Project employees.

If the abatement work extends outside of the current Project site or new materials are revealed during the performance of the abatement work, it is the Contractor’s responsibility to notify the OAR. The Contractor, Subcontractors, and all personnel shall refrain from disturbing any unsurveyed areas or materials prior to obtaining an ACM Survey.

- B. If the Contractor determines ACM/PACM will be disturbed, an abatement project design will be provided through the OAR by the EAD. The document will come in the form of a project manual that will outline the type(s) of asbestos; abatement methodologies; personal protective equipment to be employed; and waste handling and disposal by the Contractor or the Abatement Subcontractor.

#### 1.8 REGULATORY REQUIREMENTS

- A. The Contractor, or the Abatement Subcontractor, shall comply with all Federal, State, and local laws and regulations governing asbestos abatement, including, but not limited to, regulations listed in subsection 1.3.
- B. General construction personnel shall not disturb any PACM or ACM without appropriate asbestos licensing/training and approval from the EAD.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

**3.1 GENERAL WORK ACTIVITIES**

The Contractor, or the Abatement Subcontractor, shall follow these measures while conducting work if PACM/ACM are present in the Project site.

- A. Instruct workers where the PACM/ACM is known to be located and instruct them not to disturb the material. New workers shall be informed prior to working in the Project site.
- B. Instruct workers on emergency procedures should PACM/ACM become dislodged or accidentally disturbed.

In the event PACM/ACM become dislodged or disturbed, the Contractor, or the Abatement Subcontractor, shall perform the following:

- 1. Remove all persons from the room. All personnel shall be removed, and the area secured to prevent entry.
  - 2. Contact the Airport Operations Center (AOC) at 972-973-5572, and report the location, time of the release, and quantity of the dislodged material. EAD will contact the Contractor with further instructions.
  - 3. Minimize further migration of asbestos fibers by isolating the HVAC system to the affected room. EAD will contact the Contractor and provide further direction.
- C. The Contractor shall ensure that all abatement work areas have been surveyed for ACM prior to any disturbance. If the abatement work extends outside of the current Project site or impacts materials that have not been addressed in the ACM survey, it is the Contractor's responsibility to notify the OAR. The Contractor shall refrain from disturbing any unsurveyed areas or materials prior to obtaining a new ACM Survey in accordance with subsection 1.5.
  - D. Review the SDSs to ensure that no asbestos mineral forms are installed at the Airport.

**3.2 ASBESTOS ABATEMENT**

The Contractor, or the Abatement Subcontractor, shall follow the following measures when conducting work that disturbs PACM/ACM.

**A. Work Preparation**

No activities including preparation work shall commence at the abatement project site until:

- 1. All submittal requirements in subsection 1.5 have been fulfilled and approved.
- 2. An asbestos abatement design has been provided by the EAD.
- 3. The start date on the asbestos abatement notification submitted to the TDSHS.

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#### B. Emergency Precautions

The Contractor, or the Abatement Subcontractor, shall:

1. Establish emergency and fire exits from the abatement work area and train employees and Subcontractors with evacuation procedures.
2. Be prepared to administer first aid to injured and contaminated personnel. When an injury occurs, stop Work and implement fiber reduction techniques (e.g., water spraying) until the injured person has been removed safely from the Work area. Treat seriously injured personnel immediately or evacuate without delay for decontamination.
3. Prominently post the location of the nearest telephone, as well as the telephone numbers of all emergency response personnel in the Clean Room.

#### C. Signs & Labels

The Contractor, or the Abatement Subcontractor, shall post signs and labels as required by the TAHPR and 29 CFR 1926.1101 regulations.

#### D. Personal Protection and Decontamination

The Contractor, or the Abatement Subcontractor, shall provide necessary protective and safety equipment to all staff to carry out the abatement operations stated in the asbestos project design. In addition, the Contractor, or the Abatement Subcontractor, shall provide to authorized visitors and Inspectors:

1. Protective disposable clothing, eye protection, and hard hats as required by job conditions and;
2. Respiratory protective equipment approved by NIOSH and the Mine Safety and Health Administration (MSHA).
3. Decontamination: Shower and bath water shall have hot and cold water mixing faucets. Wastewater shall either be filtered or collected and discarded as asbestos waste. Provide soap and shampoo to aid in removing dust from the entrant's skin and hair.

#### E. Abatement Preparation

The Contractor, or the Abatement Subcontractor, shall prepare for the abatement work by:

1. Clearing all personnel and all moveable objects from the abatement area before the abatement work commences unless specified otherwise. The removal and the replacement of removed items upon completion of the abatement shall be the sole responsibility of the Contractor.
2. Securing the area and provide adequate protective controls for the HVAC system, mechanical systems, electrical systems and plumbing systems.
3. Disabling HVAC Systems

The HVAC system(s) that service the regulated area shall be deactivated and locked off. All ducts, grills, access ports, and vents shall be sealed off with two layers of Poly Sheeting to prevent entrainment of contaminated air.



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4. Shared HVAC Systems

If components of an HVAC system are connected to a system that will service another zone during the project, the portion of the duct in the regulated area shall be sealed and pressurized. Additional precautions shall include but are not limited to caulking and covering all duct joints, and other openings in the HVAC system with two layers of Poly Sheeting. The duct shall remain pressurized throughout the duration of the project to prevent entrainment of contaminated air.
  5. Sealing Elevators

If an elevator shaft is in the regulated area, it shall be shut down and isolated with two layers of plastic sheeting. The sheeting shall provide enough slack to accommodate the pressure changes in the shaft without breaking the air-tight seal.
  6. Removing Mobile Objects

Cleaning all movable objects and remove from the abatement work area before an enclosure is constructed unless moving the objects creates a hazard. Mobile objects shall be assumed to be contaminated and shall be either cleaned with amended water and a HEPA vacuum and then removed from the area or wrapped and disposed of as regulated waste.
  7. Cleaning and Sealing Surfaces

Cleaning all surfaces with water and a HEPA vacuum prior to constructing the enclosure. Covering surfaces of stationary objects with two layers of Poly Sheeting secured with duct tape or an equivalent method to provide a tight seal around the object.
- F. Enclosure
1. The Contractor and the Abatement Subcontractor shall follow the EAD provided abatement project design regarding enclosure construction. The enclosure shall protect all building systems not planned for abatement removal. Enclosures shall be both airtight and watertight except for those openings designed to provide entry and/or air flow control. Enclosures shall be constructed, monitored, maintained in accordance with TAHPR and 29 CFR 1926.1101 requirements.
  2. The Contractor, or the Abatement Subcontractor, shall construction each enclosure to contain a work area, a decontamination area, and waste storage area and meet the following requirements.
    - a. Structural Integrity

Frames shall be constructed to support all unsupported spans of sheeting. The walls, ceilings and floors shall be supported in such a manner that portions of the enclosure will not fail during normal use.
    - b. Openings

All necessary openings into the enclosure shall be constructed with one or more airlocks that will automatically close in the event the enclosure loses negative pressure. Charcoal filters shall be used to mitigate any nuisance odors.

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#### G. Enclosure Airflow

The Contractor, or the Abatement Subcontractor, shall ensure:

1. All negative pressure devices are in good working order and maintained properly through the entire duration of the abatement.
2. Air exhausted from the enclosure shall pass through HEPA filter during the entire duration of the abatement.
3. All HEPA filters used are in accordance with the manufacturer's requirements.
4. The HEPA filters shall be replaced when the air flow volume is reduced by the build-up of dust in the filtration material.
5. Exhaust air from the negative pressure unit shall be directed away from the public, adjacent workers and intakes for HVAC systems.

#### H. Tools and Equipment

The Contractor, or the Abatement Subcontractor, shall provide, prepare, and maintain any tools and equipment used in the abatement work as follows:

1. Any contaminated equipment or tools brought to the abatement work area shall be sealed inside two layers of Poly Sheeting and appropriately labeled. The tools or equipment shall not be unsealed until they are placed inside of an operational negative pressure enclosure.
2. Scaffolding, as required to accomplish the abatement work, shall meet all applicable Federal, State, and local safety regulations.
3. Transportation Equipment  
Equipment used to transport contaminated materials shall be suitable for loading, temporary storage, transport and unloading of contaminated waste without exposure to persons or property.
4. Vacuum Equipment  
All vacuum equipment utilized in the abatement work area shall utilize HEPA filtration systems.
5. High-speed abrasive disc saws shall be equipped with point of cut ventilator or enclosures with HEPA filtered exhaust air.

#### I. Exposure Monitoring and Medical Surveillance

1. The Contractor, or the Abatement Subcontractor, shall be responsible for all exposure monitoring and medical surveillance for all personal. Monitoring shall be performed in accordance with TAHPR and 29 CFR 1926.1101 requirements.
2. Negative exposure assessments must be reviewed and approved by the EAD and their asbestos consultant, if any, prior to use.
3. Exposure monitoring and/or medical surveillance shall be provided to the EAD, or their asbestos consultant, upon request within 24 hours.

#### J. Abatement Monitoring and Inspection

1. The performance and execution of the abatement work shall be monitored by an EAD appointed asbestos consultant and or asbestos project manager/air

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monitoring technician. This consultant or their staff shall not be employed by the Contractor, or the Abatement Subcontractor, for the Occupational Safety and Health Administration (OSHA) personnel exposure monitoring during the duration of the Project.

2. The frequency of monitoring will be at the discretion of the asbestos consultant.
3. The Contractor, or the Abatement Subcontractor, shall cooperate with and support the asbestos consultant throughout the abatement process.
4. The asbestos consultant will provide copies of the sample results to the Contractor and the Abatement Subcontractor.
5. Aggressive air sampling for clearance of the containment area and completion of abatement will be based on results of ambient air sampling inside the containment area, conducted by the asbestos consultant.
6. If clearance monitoring fails, the Contractor shall be solely responsible for any costs of additional sampling.

#### K. Asbestos Removal

The Contractor, or the Abatement Subcontractor, shall:

1. Be responsible for managing emissions and contaminated media in accordance with TAHPR and 29 CFR 1926.1101 to prevent asbestos exposure during the asbestos abatement.
2. Keep materials adequately wetted with amended water to prevent fiber emissions.

#### L. Cleaning

The Contractor, or the Abatement Subcontractor, shall:

1. Manage debris within the regulated area in accordance with TAHPR and 29 CFR 1926.1101 requirements.
2. Ensure all surfaces within the enclosure shall be cleaned and HEPA vacuumed before the exhaust ventilation system is deactivated and the enclosure is disassembled. An approved encapsulant shall be sprayed onto areas after the visible dust has been removed.

#### M. Disposal Activities

1. The Contractor, or the Abatement Subcontractor, shall manage all asbestos wastes in accordance with the TAHPR, 29 CFR 1926.1101 and Section 01 74 19, Construction Waste Management.
2. The asbestos waste disposal facility will be listed in the asbestos project design. Any variance from the facility must be approved by the EAD prior to transporting the waste materials.
3. Asbestos waste shall be secured until the waste is received by the approved disposal facility.
4. A universal waste manifest will be provided by the EAD.
5. All waste manifests shall be signed by an authorized designee of the EAD.

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#### N. Repair and Restoration

1. The Contractor shall be responsible for repair of any damages incurred to the finishes, floor, walls, or any other item or fixture during the execution of the Work.
2. A pre-construction inspection report and videotape may be used as the basis for the assessment of damages.

#### **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

**1.1 SUMMARY**

- A. This Section covers the requirements for obtaining the appropriate authorization (air permit or permit by rule) for air emissions that are released into the atmosphere during construction.
- B. This Section addresses the requirement for special tracking to demonstrate air quality general conformity and greenhouse gas emissions analysis.

**1.2 REFERENCES**

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

- A. United States Environmental Protection Agency (EPA), U.S. Code of Federal Regulations (CFR):
  - 1. 40 CFR Part 60, Standards of Performance for New Stationary Sources.
  - 2. 40 CFR Part 63, National Emission Standards for Hazardous Air Pollutants.
- B. Texas Administrative Code (TAC):
  - 1. 30 TAC 101, General Air Quality Rules
  - 2. 30 TAC 106, Permits by Rule
  - 3. 30 TAC 116, Control of Air Pollution from Volatile Organic Compounds

**1.3 DEFINITIONS**

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

**1.4 SUBMITTALS**

The Contractor shall:

- A. Submit an air emission memorandum to the Owner's Authorized Representative (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 the required air permit application(s) and submit to the OAR for review prior to submittal to Texas Commission on Environmental Quality (TCEQ). Air permit applications shall be submitted to OAR 15 Calendar 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 the OAR and the Construction Manager (CM). Regulated activities cannot begin until the Contractor receives approval from TCEQ.

## Construction Air Permitting

### Section: 01 41 26.10

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- D. Submit to TCEQ, the OAR, and the 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 as-soon-as practicable and no later than 24 hours of discovery.

#### 1.5 PERMITS

##### A. General:

The Contractor shall:

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 Calendar Days prior to submission to TCEQ.
3. The Contractor shall be responsible for obtaining all necessary air permits, including all permit application fees and public notification requirements.
4. The 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: <https://www.tceq.texas.gov/>
2. The Contractor shall coordinate with TCEQ for any required inspections of the permitted facility or operation.
3. The Contractor shall notify the CM within 24 hours of the scheduled inspection, or immediately for non-scheduled TCEQ inspection.

##### C. Permit by Rule:

Use form TCEQ PI-7 and applicable TCEQ specific checklists. TCEQ forms can be found at the TCEQ website: <https://www.tceq.texas.gov/>

- D. Special Tracking – The Contractor shall provide project tracking and air emissions analysis to demonstrate compliance with general conformity analysis as requested by the OAR. The Contractor shall be 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 the request of the Environmental Affairs Department (EAD), through the OAR.

## PART 2 – PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 PERMIT COMPLIANCE

The Contractor shall:

- 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

## **Construction Air Permitting**

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- 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.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# CONCRETE BATCH PLANT AND HOT MIX ASPHALT PLANT PERMITTING

## Section: 01 41 26.13

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### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section covers the permitting requirements for the construction and operation of concrete and hot-mix asphalt batch plants that may be required for the Project.
- B. All concrete and hot mix asphalt plants shall adhere to Texas Commission of Environmental Quality (TCEQ) requirements whether listed herein or omitted.
- C. Any such plants shall obtain coverage under the applicable air permit and stormwater permit required for the construction of the Project.

#### 1.2 SUBMITTALS

- A. The Contractor shall determine which air permit to obtain coverage under (Standard Air Permit, or New Source Review Permit) and submit the permit application and TCEQ letter of authorization to the Owner's Authorized Representative (OAR) prior to initiating construction of the concrete batch plant or hot mix asphalt plant.
- B. All asphalt plants and concrete batch plants seeking stormwater coverage under TXR150000, shall follow the submittal requirements listed in Section 01 57 13.
- C. For concrete batch plants seeking stormwater coverage under TXG110000, the Contractor shall submit the Stormwater Pollution Prevention Plans (SWPPP) and core data form to the Airport Environmental Affairs Department (EAD), through the OAR, for review prior to submitting to TCEQ.
- D. The Contractor shall submit all monitoring data and sample results to EAD, through the OAR, upon request.
- E. For concrete batch plants seeking stormwater coverage under a Multi-Sector General Permit, the Contractor shall submit the Notice of Intent (NOI) and permit application to EAD, through the OAR, for review.

Submit all monitoring data and sample results to EAD, through the OAR, upon request.

#### 1.3 REFERENCES

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

- A. Texas Administrative Code (TAC), Title 30 Chapter 116, Control of Air Pollution by Permits for New Construction or Modification
- B. Code of Federal Regulations (CFR), Title 40 Part 131 Water Quality Standards

#### 1.4 DEFINITIONS

- A. Contact Stormwater: Stormwater that comes in contact with any raw materials, products, by-products, waste material, or equipment
- B. Discharge Monitoring Report (DMR): A regulatory term for a periodic water pollution report prepared for industry, municipalities, and other facilities discharging to the surface waters.
- C. Facility Wastewater: Wastewater that is generated at ready-mix concrete plants, concrete products plants, or associated facilities.

### PART 2 – PRODUCTS

Not Used.



**PART 3 - EXECUTION**

**3.1 GENERAL**

Concrete Batch Plants and Asphalt Plants will need to obtain coverage under the applicable air permit and stormwater permit.

**3.2 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 the Airport are considered off-site receptors according to TCEQ and must be represented in the permit application and associated plot-plan. The 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 the EAD, through the OAR, prior to start of operations.

**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 30 TAC §39.604. Concrete batch plants which meet the following requirements fulfill the TCEQ definition for “temporary”.
  - 1) Occupy a designated site for less than 180 consecutive Calendar Days;
  - 2) Supply concrete for a single project under one contract; or
  - 3) Supply concrete for the same contractor for related project segments.
- b. Temporary concrete batch plants shall conduct public notice that complies with the requirements in 30 TAC Chapter 39. The Contractor shall notify the 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). If the Contractor operates a facility which has previously been authorized under a TCEQ Standard Permit for Temporary Concrete Batch Plants and is relocating the facility to the Airport, the Contractor may submit the original TCEQ approval letter for the facility along with the 30 Calendar Day relocation notice to the TCEQ Region 4 office (in this case, the Contractor will subsequently be allowed to begin construction 30 Calendar Days from the date of the relocation letter to TCEQ Region 4). NOTE: Concrete Batch Plant equipment may be brought onto the Project site provided there are no connections made to utilities which make the unit operable.

## CONCRETE BATCH PLANT AND HOT MIX ASPHALT PLANT PERMITTING

### Section: 01 41 26.13

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2. Permanent Concrete Batch Plant  
The requirements may be found on TCEQ's Air Quality Standard Permit for Concrete Batch Plants.
3. Temporary Asphalt Batch Plant  
The requirements may be found on TCEQ's Standard Permit for Hot Mix Asphalt Plants.
4. Engines  
Requirements for temporary or portable engines may be found in TCEQ Standard Permit, Section 6. The Contractor shall submit TCEQ Table 29 certifying that no engine (or combination of engines) exceeds 1000 total horsepower. If an engine (or combination of engines) exceed 1000 total horsepower, then additional permitting requirements may apply.

### 3.3 STORMWATER PERMITTING OPTIONS

The Contractor may obtain stormwater coverage under any of the following Texas Pollutant Discharge Elimination System (TPDES) permits or through an Individual Permit.

- A. TPDES Construction General Permit (TXR150000):
  1. 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.
  2. Plant is authorized by TCEQ to discharge only stormwater runoff. Stormwater discharges must be monitored prior to initial discharge and then annually as stated in the permit.
  3. Project seeking coverage under TXR150000 shall adhere to the requirements in Section 01 57 13.
- B. TPDES General Permit for Discharges from Concrete Production Facilities (TXG110000).
  1. Plants that supply concrete to multiple projects or that discharge process water may obtain coverage under TXG110000.
  2. Authorizes discharge of wastewater and Contact Stormwater from the plant and associated facilities with the following Standard Industrial Classification (SIC) Codes.
    - a. 3271 Concrete Block and Brick
    - b. 3272 Concrete Product Except Block and Brick
    - c. 3273 Ready-mixed Concrete
  3. Requires a separate SWPPP be prepared for the plant.
    - a. Refer to General Permit (TXG110000) for the SWPPP requirements
    - b. Submit the NOI at least 30 Calendar Days before beginning the discharge.
      - 1) Submit the NOI and Core Data form to the EAD, through the OAR, for review prior to submitting to TCEQ. The Core Data form may be found on the TCEQ website.

## CONCRETE BATCH PLANT AND HOT MIX ASPHALT PLANT PERMITTING

### Section: 01 41 26.13

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- 2) The Airport does not meet the definition of discharger under the TXG110000 permit and is therefore not required to submit an NOI along with Contractor.
  - 3) The Contractor, being operator of plant, is the permitted discharger.
  - 4) Within six (6) weeks to eight (8) weeks following processing of the NOI, a DMR (EPA Form 3320-1) will be mailed to operator of discharge.
4. Sampling:
- a. Monthly sampling and analysis for flow, oil and grease, total suspended solids (TSS), and pH are required and 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.
  - b. Submit an original DMR with results of sampling activities to TCEQ on a quarterly basis.
- C. TPDES Multi-Sector General Permit (TXR050000):
1. Applies to plants supplying to multiple projects or customers, and discharging only stormwater runoff
  2. If the Contractor elects to seek coverage under this permit, he shall notify the EAD Construction Application Review staff, through the OAR, before proceeding further.
  3. Regulated facilities are required to notify the operator of the Municipal Separate Storm Sewer System (MS4) that receive the discharge. The Airport is a permitted MS4.
  4. Notification:
    - a. If the Contractor applies under the Multi-Sector General Permit (MSGP) to discharge to an MS4, a signed copy of the Contractor's Notice of Intent (NOI) or No Exposure Certification shall be submitted to the MS4 operator and TCEQ.
    - b. The Contractor shall also submit a copy of any Notice of Change (NOC) or Notice of Termination (NOT) to the MS4 operator and TCEQ.
  5. Discharge Monitoring Report (DMR):

The Contractor shall:

    - a. Follow the permitting requirements for collecting analytical data and reporting to TCEQ.
    - b. Submit monitoring data and sample results to the EAD, through the OAR, when requested.
- D. Individual Stormwater Permit
1. Suitable for plants supplying to multiple projects or customers.
  2. If the Contractor intends to pursue a discharge permit using this type of application, the Contractor shall notify the EAD, through the OAR, before proceeding with this option.

**CONCRETE BATCH PLANT AND HOT MIX ASPHALT PLANT PERMITTING**

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**PART 4 – MEASUREMENT AND PAYMENT**

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 Program for each Construction Contract.
- C. Submit the Contractor's Quality Control Program to the Owner's Authorized Representative in Microsoft Word 10 days prior to construction activities.

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.
- B. Establish and maintain an effective quality control (QC) program in compliance with the Contract Clause titled "Inspection of Construction." QC consist of plans, procedures, and organization necessary to produce an-end product which complies with the contract requirements. Cover all construction design and construction operations, both onsite and offsite, and be keyed to the proposed construction design and construction sequence. The QC Administrator will be held responsible for the quality of work and is subject to removal by the OAR for non-compliance with the quality requirements specified in the contract. In this context the highest-level manager responsible for the overall construction activities at the site, including quality and production is the project superintendent. The QC Administrator must always maintain a physical presence at the site and is responsible for all Quality Control related activities at the site, except as otherwise acceptable to the OAR.

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 PLAN

- A. Submittal:
1. Submit no later than 10 days after receipt of notice to proceed, the Quality Control (QCP) Plan proposed to implement the requirements of the Contract Clause titled "Inspection of Construction." DFW will consider an interim plan for the first 10 days of operation. Construction Design and construction will be permitted to begin only after acceptance of the QC Program or acceptance of an interim plan applicable to the feature of work to be started. Work outside of the accepted interim plan will not be permitted to begin until acceptance of a QC Program or another interim plan containing the additional work.
  2. The Quality Control Program must be approved prior to the commencement of construction activities.
- B. Content of the QC Plan:
1. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the QC Administrator will implement the three-phase control system for all aspects of the work specified.
  2. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a QC function.
  3. A copy of the letter to the QC Administrator signed by an authorized official of the firm which describes the responsibilities and delegates enough authority to adequately perform the functions of the QC Administrator, including authority to stop work which is not in compliance with the contract. Letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities will be issued by the QC Administrator. Copies of these letters must be furnished to the DFW.
  4. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.
  5. Reporting procedures, including proposed reporting formats.
  6. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks, has separate control requirements, and may be identified by different trades or disciplines, or it may be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a section. This list will be agreed upon during the coordination meeting.

C. Organization:

1. Designate one individual as the Quality Control Administrator. The Quality Control Administrator will have responsibility for the implementation of the Quality Control Program for the Contractor on all construction contracts. The Quality Control Administrator 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.
  - A. Quality Control Administrator shall be a full-time employee and be totally dedicated to quality control. Quality Control Administrator shall refer to construction contract general provisions, Section 100-3 for further details.
2. Provide qualified personnel to inspect the work and perform other Quality Control Program duties as required. Submit the qualifications and work experience of all QC personnel to the Owner's Authorized Representative for review and approval. Refer to Construction Contract General Provisions, Section 100-3, and Quality Control Organization for further details on qualifications of the Contractor's Quality Control personnel.

D. Approval:

1. The Owner's Authorized Representative will review the submission and respond within seven calendar days of receipt. Experience and qualifications will be evaluated on a case-by-case basis to determine acceptability of individuals. If approval is conditional, the Contractor will comply with the direction of the Owner's Authorized Representative.
2. Once approved, the Quality Control personnel may not be replaced, nor any changes made without prior written consent from the Owner's Authorized Representative.

E. 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 immediately.
    2. Document all work activities by completing a Daily Construction Report for every contract day using the Oracle Unifier (Skier) software program as designated by DFW. Provide written reference to the Work that was in non-compliance. In addition, all documentation including but not limited to photos, tickets, quantity sign off etc.... within 24hrs of the activity for that day.

3. Arrange for all necessary testing and retesting of work with the Owner's Materials Testing Agency or the Contractor's 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 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 using the Oracle Unifier (Skier) software program as designated by DFW.
7. Participate in all inspections per General Provisions 100-9 in reference to surveillance by the Engineer (OAR).
8. Participate in all meetings with the (Engineer) Owner's Authorized Representative as required in the Quality Control Program.

F. Office Activities:

1. Review all submittals for compliance with the Contract Documents. Maintain record of all submittals day using the Oracle Unifier (Skier) software program as designated by DFW.
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.

### 3.4 CONTROL

- A. Quality Control is how the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control must be conducted by the QC Administrator for each definable feature of the construction work as follows:

#### 3.4.1 Preparatory Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase



includes: The Contractor's Quality Control Program objectives and stated Documentation and records required for implementing the Quality Control Program

- A. A review of each paragraph of applicable specifications, reference codes, and standards. Make available during the preparatory inspection a copy of those sections of referenced codes and standards applicable to that portion of the work to be accomplished in the field. Maintain and make available in the field for use by DFW personnel until final acceptance of the work.
- B. Review of the contract drawings.
- C. Check to assure that all materials and/or equipment have been tested, submitted, and approved.
- D. Review of provisions that have been made to provide required control inspection and testing.
- E. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.
- F. Examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.
- G. Review of the appropriate activity hazard analysis to assure safety requirements are met.
- H. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.
- I. Check to ensure that the portion of the plan for the work to be performed has been accepted by the OAR.
- J. Discussion of the initial control phase.
- K. The OAR must be notified at least 48 hours in advance of beginning the preparatory control phase. Include a meeting conducted by the QC Administrator and attended by the superintendent, other QC personnel (as applicable), and the foreman responsible for the definable feature. Document the results of the preparatory phase actions by separate minutes prepared by the QC Administrator and attach to the daily QC report. Instruct applicable workers as to the acceptable level of workmanship required to meet contract specifications.

#### 3.4.2 Initial Phase

This phase is performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase includes:

- A. Check work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.
- B. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.
- C. Establish a level of workmanship and verify that it meets acceptable workmanship standards. Compare with required sample panels as appropriate.
- D. Resolve all differences.
- E. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

- F. The OAR must be notified at least 48 hours prior to the beginning the initial phase. Prepare separate minutes of this phase by the QC Administrator and attach to the daily QC report. Indicate the exact location of initial phase for future
- G. The initial phase should be repeated for each work site, or any time acceptable specified quality standards are not being met.

### 3.4.3 Follow-Up Phase

Perform daily checks to assure control activities, including control testing, are providing continued compliance with contract requirements, until completion of the feature of work. Record the checks in the QC documentation. Conduct final follow-up checks and correct all deficiencies prior to the start of additional features of work which may be affected by the deficient work. Do not build upon nor conceal non-conforming work.

### 3.4.4 Additional Preparatory and Initial Phase

Conduct additional preparatory and initial phases on the same definable features of work if: *The quality of on-going work is unacceptable; if there are changes in the applicable QC staff, onsite production supervision or work crew; if work on a definable feature is resumed after a substantial period of inactivity; or if other problems develop.*

### 3.4.5 Sample Forms

- A. As required per Technical and General Provisions

### 3.4.6 Notification of Noncompliance

The OAR and or QC Administrator will notify the Contractor of any detected noncompliance with foregoing requirements. Take immediate corrective action after receipt of such notice. Any notice, when delivered by the Engineer or his/her authorized representative (OAR) at the site of the work, shall be considered sufficient notice. If the Contractor fails or refuses to comply immediately, the OAR may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such orders will be made the subject of the claim extension of time or for excess costs or damages by the Contractor.

## 3.5 QUALITY CONTROL PROGRAM

- A. Prepare a Project Specific Quality Control Program that 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.
10. Identify the Quality Control Administrator to be assigned to the project
11. Identify the Quality Control Technicians to be assigned to the project.
12. Organization and delegation of Quality Control authority to various Contractors' representatives.
13. Tabulation of all tests and inspections anticipated for the Project, and the anticipated schedule for these tests.
14. Specific documentation and records that are required for implementing the Quality Control Manual/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 -**

# NON-CONFORMANCE REPORT

Section: 01 45 20

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## PART 1 – GENERAL

### 1.1 SUMMARY

This Section covers the use of a Non-Conformance Report (NCR) to document Contractor deviations, deficiencies, and other non-conformance items noted by the Owner's personnel on the Project.

### 1.2 DOCUMENTATION

- A. All notifications, documentation, and transmittals between the Contractor and the Owner's personnel for the NCR process shall utilize the Skire Unifier software application, unless an alternate form of transmission is directed by the Owner for the Project.
- B. If an alternate form of transmission is directed for the Project, all notifications, documentation, and transmittals shall utilize that form of transmission.

## PART 2 - PRODUCTS

Not Used.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. The CM, Inspector, and other Owner's personnel will review, observe, and inspect the Work of the Project throughout construction.
- B. When a deviation or non-conformance is observed or noted, the non-conformance will be documented by preparing an NCR identifying the non-conformance along with all pertinent information such as location, description, time/date identified, and the reference Specification Section.
- C. The CM will notify the Contractor of the NCR.

### 3.2 CORRECTIVE ACTION

- A. The Contractor shall review the NCR and determine what type of Corrective Action is proposed to eliminate the deviation or non-conformance to the Contract Documents.
- B. The Contractor shall notify the CM of the proposed Corrective Action to resolve the deviation or non-conformance along with all supporting documentation for review and approval.
- C. The CM will review the Corrective Action proposed by the Contractor and may forward the Contractor's response to the Architect/Engineer and other Owner personnel for input and response.
- D. If required, the CM will incorporate the input from the Architect/Engineer and other Owner's personnel and will forward the response to the Contractor of approval or rejection of the Contractor's proposed Corrective Action.
- E. If the proposed Corrective Action is rejected, the Contractor shall formulate a revised Corrective Action and return the NCR to the CM identifying the revised Corrective Action and all supporting documentation for review and approval.
- F. If the proposed Corrective Action is approved, the Contractor shall diligently move forward in incorporating the Corrective Action into the Work and notify the CM when

## NON-CONFORMANCE REPORT

### Section: 01 45 20

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the Corrective Action is complete and the Work area is ready for follow-up observation, testing, or inspection.

#### 3.3 REINSPECTION

- A. Upon notification by the Contractor that the Work is ready for a follow-up observation, testing, or inspection, the CM will schedule the follow-up services to verify the completeness of the Corrective Action and confirmation that the condition is in conformance with the Contract Documents.
- B. After the follow-up observation, testing, or inspection is reported to the CM, the CM will close the NCR if the Corrective Action as implemented by the Contractor is approved or notify the Contractor that the end result of the Corrective Action is not in accordance with the Contract Documents.
- C. If the Contractor is notified the end result of the Corrective Action is not in accordance with the Contract Documents, the Contractor shall diligently pursue resolution of the NCR through coordination with the CM to determine the cause(s) of non-approval and to repair or reconstruct the Work to remove the non-conformance.
- D. Upon completion of the revised Corrective Action, the Contractor shall notify the CM when another follow-up observation, test, or inspection can be performed.

#### 3.4 CLOSURE

- A. When the CM is informed by the Inspector or other Owner's personnel that the revised Corrective Action is complete and that the end result of the Corrective Action has removed the deviation or non-conformance, the CM will close the NCR.
- B. The CM will sign and date the NCR and notify the Contractor that the NCR has been closed.

## PART 4 – MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

1.1 SUMMARY

This Section covers the Contractor's coordination with the Owner and the Testing Laboratory provided for the Project.

1.2 GENERAL

- A. A Testing Laboratory will be provided for the Project at the Owner's expense. The Owner will contract with an independent entity or consultant to provide the necessary equipment and provide the services to perform the Quality Assurance testing for the Owner as required by the Contract Documents.
- B. The Contractor shall coordinate with the Construction Manager (CM) and the Testing Laboratory in collecting or providing the required samples for testing on the Project.
- C. The Contractor shall be responsible for all communication between the Contractor, his employees, Subcontractors, and the Owner's personnel, including the CM, Inspector, and Testing Laboratory personnel in the scheduling times for inspections, tests, obtaining samples and similar activities.
- D. The services of the Testing Laboratory shall in no way relieve the Contractor of the obligation to perform the Work in accordance with requirements of the Contract Documents including providing Quality Control testing and monitoring of the Project components.
- E. All portions of the Work shall be subject to Quality Assurance inspection in accordance with the Contract Documents and shall remain accessible and exposed for inspection purposes until otherwise approved by the CM.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

3.1 TESTING COORDINATION

- A. The Contractor shall provide, [on a weekly basis], an anticipated inspection schedule, coordinated with the Construction Schedule, showing the anticipated Quality Assurance inspection needs for the following [three (3) weeks] to facilitate appropriate coordination and mobilization of required personnel.
- B. The Contractor shall provide notice to each party at least [two (2) Working Days] prior to any Quality Assurance inspection or testing obligation for modifications from the provided schedule.
- C. The Contractor shall coordinate the sequence of activities to accommodate required Quality Assurance observation and testing services with a minimum of delay.
- D. The Contractor shall coordinate activities to avoid the necessity of removing and replacing construction to accommodate for any inspections and tests.
- E. The Contractor shall provide adequate access of the Owner's personnel and the Testing Laboratory personnel to the Work so that any Quality Assurance inspection, observation, and/or sample may be obtained from the Work area.
- F. The Contractor shall cooperate with the CM, the Testing Laboratory, and any other Owner's personnel to perform any required Quality Assurance inspection,

## OWNERS TESTING LABORATORY

### Section: 01 45 29

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observation, test, or similar service, and shall provide reasonable auxiliary service to such parties as requested.

#### 3.2 OWNER TESTING COSTS

- A. The Owner will be responsible for the costs of initial Quality Assurance inspections and tests required by the Contract Documents.

#### 3.3 CONTRACTOR TESTING COSTS

- A. The Contractor shall be responsible for the costs of any repeat Quality Assurance inspection, observation, or test due to:
1. Inadequate access existed at the time of the scheduled inspection, observation, or test.
  2. The subject Work area was incomplete or otherwise not prepared or ready when Owner's personnel, Inspector, or Testing Laboratory personnel arrive.
  3. Failure of the Contractor or a Subcontractor to properly schedule or notify the CM, Inspector, the Testing Laboratory, or any other Owner's personnel responsible for the Work area or product.
  4. Any change in sources, lots, or suppliers of products after the original test(s) or inspection(s) were completed.
  5. Any changes in the means, methods, techniques, sequences, and procedures of construction that necessitate additional testing, inspection, and related services.
  6. Changes in mix designs for concrete and mortar after review and acceptance of the submitted mix design.
  7. Contractor use of multiple off-site fabrication locations.
  8. Any Contractor, Subcontractor, installation errors, or fabrication errors.
  9. Any inefficient, sporadic, or poorly organized manufacturing that causes additional testing cost to be incurred by the Owner or Owner's contracted personnel or firm.
  10. The results of a required inspection, test(s), or similar service prove unsatisfactory and do not indicate compliance with the Contract Documents.
- B. The Contractor shall be responsible for the costs of all Quality Control testing.

#### 3.4 CONTRACTOR ADDITIONAL TESTING

- A. Any additional testing required by the Contractor for determination of construction timing, scheduling, or justification of any discrepancy shall be the sole responsibility of the Contractor.
- B. The Contractor shall provide test data an independent testing laboratory to verify materials proposed by the Contractor for a Substitution as stated in Section 01 25 13.
- C. The independent testing laboratory shall not be the same entity contracted with the Owner for the Testing Laboratory, inspections, or testing services on the Project.

## **OWNERS TESTING LABORATORY**

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#### **3.5 LIMITS ON TESTING LABORATORY AUTHORITY**

- A. The Testing Laboratory may not:
  - 1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Approve or accept any portion of the Work.
  - 3. Assume any duties of Contractor.
- B. The Testing Laboratory shall have no authority to stop Work.

#### **3.6 REPAIR AND PROTECTION**

- A. Upon completion of all inspection, testing, obtaining samples, and similar services, the Contractor shall repair any damaged area and restore substrates and finishes to eliminate any deficiency, including visual qualities of exposed finishes.
- B. The Contractor shall protect any Work areas exposed for inspection, observation, or testing activities and protect any repaired areas.

### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



## TEMPORARY FACILITIES AND CONTROLS

### Section: 01 50 00

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#### PART 1 - GENERAL

1.1 This Section includes the requirements of the temporary facilities and controls required on the Project.

A. Temporary utilities:

1. The temporary utilities include providing electrical service, lighting, heating, cooling and ventilation, telephone, water, and sanitary facilities for the Project.
2. The Temporary facilities may include the use of existing system as applicable.
3. The Contractor shall be responsible for installation, operation, and maintenance throughout the Project period and removal of the systems at the end of the Project.

B. The Contractor shall install, remove, and replace temporary construction barricades as required as part of the Work in accordance with the contract documents.

C. The Contractor shall be responsible for the for control of dust on the Project site as well as temporary erosion and pollution controls.

#### 1.2 TEMPORARY UTILITY SERVICE REQUIREMENTS

**The Contractor shall provide all the temporary utilities including the following services:**

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 the individual Sections.

D. Arrange with local telephone service companies to provide and install 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 (OAR).
2. Provide the meter(s) required to record amount of water used.
3. Complete and submit the Water Request Form included in Section 01 50 00.01.

F. Provide all utilities and associated facilities at time of Mobilization.

## TEMPORARY FACILITIES AND CONTROLS

### Section: 01 50 00

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#### 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. The Contractor may use the existing mechanical and electrical systems temporarily and shall coordinate such use with the OAR for terms and conditions for use of systems in Owner occupied areas.
- B. The Contractor shall monitor utilities usage to prevent any interference with Owner's normal requirements and notify the OAR of any abnormal usage (volume, pressure, or duration).

#### 1.5 USE OF PERMANENT SYSTEMS

- A. If the Contractor wishes to use any Owner permanent system, the Contractor shall obtain written authorization from the Owner for such use and establishing the 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 as required by the the Contract Documents.
  - 3. Filters and other protective devices for the equipment are in place and operational.
- B. Submit an Indoor Air Quality Plan to the OAR for review and approval to ensure the use of any Owner permanent system will not negatively impact the Owner's use of the facility. The Contractor shall continuously monitor conditions to ensure air and water system cleanliness throughout the construction period.
- C. Use of Fire Hydrants:

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 OAR and have an approved Water Request Form on file.

#### 1.6 COST OF TEMPORARY FACILITIES

- A. The Contractor shall pay for the cost of the following:
  - 1. Permits and inspections unless otherwise provided for in the Contract.
  - 2. Installation of temporary utilities, materials, operation, maintenance and removal.

## TEMPORARY FACILITIES AND CONTROLS

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3. Energy consumed until beneficial occupancy unless provided for in Contract.
4. Fuel consumed by portable units.
5. Water used throughout the Contract.

NOTE: Water will be billed to Contractor at the rate of \$ X.XX per 1,000 gallons used.

- B. The Owner will pay the cost for the following:
1. Fuel consumed in use of existing systems, except for fuel consumed by portable units.
  2. Temporary easements required across property outside the Owner's property.

#### 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 Owner on an annual basis. If the Contractor desires to place vending machines on their Project site, the Contractor shall coordinate all requests for placement of vending machines with the Airport Concessions Department through the OAR.
- B. Prior to submitting an application to add any other vending source, the Contractor shall first receive a turndown in writing from the primary vending source(s). After receiving a turndown, the Contractor may ask for approval to place other vendor's equipment on the Project site.
- C. No vending equipment may be set-up on the Project site or elsewhere on the Airport prior to receiving the Airport Concessions Department's written approval from the OAR.

## PART 2 - PRODUCTS

### 2.1 MATERIALS FOR TEMPORARY FACILITIES

#### **The Contractor shall provide the following:**

- A. New or used materials which are adequate to the intended purpose.
- B. All devices and equipment shall meet Underwriter's Laboratory (UL) requirements.
- C. Telephone Equipment: Products of the local service company or specialty devices compatible with service company requirements.
- D. Drinking water dispensers of the size and number sufficient to service the Contractor and Owner's staff. The number and locations of dispensers will be approved by the OAR.
- E. Water meter(s) as shown on the Plans which remote reading indicators can be added as a standard option and be equal to those manufactured by Hersey Products, Inc. Only water meter(s) designed to be installed on fire hydrants will be approved for such use.
- F. Backflow preventer on all temporary construction water services with a line sized backflow preventer equal to Beeco Model 6-C as shown on the Plans. The Contractor shall install a test valve for facilitating a backflow prevention test.

## TEMPORARY FACILITIES AND CONTROLS

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- G. Enclosed portable toilet facilities, self-contained units, secluded from public view meeting the requirements of State and local health regulations and ordinances.

## PART 3 – EXECUTION

### 3.1 TEMPORARY FACILITIES INSTALLATION

The Contractor shall provide the services and facilities as follows:

- A. Install initial services and facilities at time of 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 Airport Construction and Fire Prevention Standards Resolution (Section 312.9 of the Plumbing Code).

### 3.2 OPERATION AND MAINTENANCE

- A. The Contractor shall operate and maintain the temporary systems to provide continuous service throughout the Project and promptly replace worn or defective parts.
- B. Permanent heating, ventilation and cooling:
  - 1. Clean or replace filters and install filters in duct extensions as necessary to maintain the work areas and finished areas in a condition meeting the requirements of the Contract.
  - 2. Prior to operation of permanent equipment, the Contractor shall 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 and maintain in a sanitary condition. Provide all supplies such as 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 DUST CONTROL

- A. The Contractor shall 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. The Contractor shall maintain dust control measures including, but not limited to, watering down materials to prevent blowing dust/materials and taking necessary actions to abate any nuisance related to excessive dust caused or brought about by the Work to the satisfaction of the OAR.

## TEMPORARY FACILITIES AND CONTROLS

### Section: 01 50 00

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#### 3.4 EROSION CONTROL

- A. The Contractor shall 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 a 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 erosion, apply corrective measures as required by pollution control in accordance with Section 01 57 13.

#### 3.5 POLLUTION CONTROL

- A. The Contractor shall 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 and the 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 and prevent toxic concentrations of chemicals and harmful dispersal of pollutants into atmosphere.
- E. Comply with the Storm Water Pollution Prevention Plan (SWPPP) included in the Plans.

#### 3.6 WASTE DISPOSAL

The Contractor shall dispose of waste throughout the Project in accordance with Section 01 74 19.

#### 3.7 REMOVAL OF TEMPORARY FACILITIES AND CONTROLS

- A. The Contractor shall perform the following:
- B. Remove the temporary materials and equipment at Substantial Completion of the Project.
- C. Restore existing and permanent equipment when used for temporary service to original condition at Substantial Completion.
- D. Remove any temporary underground installations to a depth of two (2) feet and grade site as indicated in the Plans.
- E. Replace temporary filters with new, clean, reusable filters at Substantial Completion.
- F. Remove each water meter at Substantial Completion and leave the water valve in place when the temporary service has been supplied through a water main. Install coat valve and piping remaining with coal tar coating system in accordance with

## **TEMPORARY FACILITIES AND CONTROLS**

### **Section: 01 50 00**

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NAPCA (National Association of Pipe Coating Applicators) TF-2, TF-3, TG-2 or TG-3 specifications.

- G. Remove portable toilets when no longer required for the Contractor or Owner's staff.

### **PART 4 MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**TEMPORARY FACILITIES AND CONTROLS – WATER REQUEST FORM**

**Section: 01 50 00.01**

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**DALLAS-FORT WORTH INTERNATIONAL AIRPORT**

P. O. Drawer 619428, Dallas-Fort Worth Airport, Texas, 75261-9428,

REQUEST FOR WATER SERVICE

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**PART I -- TO BE COMPLETED BY THE APPLICANT:**

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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

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**PART II -- TO BE COMPLETED BY THE OWNER:**

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Date Service: Initiated Terminated  
Water Mfg. Serial No.  
Register Capacity           ,           , Gallons (           ) Cu. Ft. (           )  
Extra Equipment

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**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 \$3000 (Three Thousand 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.

**- END OF SECTION -**

## PART 1 - GENERAL

This Section covers the requirements for the construction, layout, and furnishing of the Owner's Field Office for the Project including maintenance, service, and removal.

## PART 2 - PRODUCTS

The Owner's Field Office shall include more than one (1) desk for support staff of designers, auditors, purchasing agents, computer operators etc. The Owner's Field Office layout and facilities shall comply with the Americans with Disabilities Act Accessibility Guidelines (ADAAG) and the Texas Accessibility Standards (TAS), whichever is more stringent, and with associated local permitting and inspection regulations. Evidence that the structure itself has been approved by the Airport Design, Code and Construction Department (DCC) shall be required.

## PART 3 - EXECUTION

3.1 The Owner's Field Office shall meet the following:

- A. Separate spaces for the sole use of the Owner's staff with separate entrance door with new lock and five (5) keys.
- B. Area: Minimum [ ] square feet with minimum dimension [ ] feet and separate office of [ ] square feet. Provide a separate room approximately [ ] square feet for Project meetings, furnished with a conference table, folding chairs and a tack-board.
- C. Windows: [ ], minimum total area or ten percent (10%) of floor area, with operable sash and insect screens located to provide views of Project site.
- D. Electrical Distribution Panel: [ ] circuits minimum, [ ] volt, [ ] hertz service.
- E. Minimum [ ] - [ ] volt duplex convenience outlets, spaced at 12 feet intervals, with a minimum of one (1) 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 Airport Wi-Fi network.
- I. Sanitary facilities, cold water fountain, and private lavatory-toilet facilities with mirror, toilet and towel paper dispensers, soap and waste receptacle.
- J. Furnishings:
  - 1. [ ] standard size desk with six drawers and a swivel arm desk chair on four (4) or (5) rollers.
  - 2. [ ] plan table(s): [ ] x [ ] x [ ] inches, sloping [ ] inches, two (2) 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 the Project Plans.



5. [ ] standard four-drawer legal-size metal filing cabinets with file separators with [ ] hour fire-proofing and locks provided with not less than two (2) keys.
6. [ ] four-drawers legal size filing cabinet(s) with [ ] hour fire-proofing, with lock and not less than two (2) keys.
7. [ ] feet of 12 inch deep bookshelves in main space and eight (8) feet of 2-tier shelving in office.
8. [ ] straight chairs.
9. One (1) waste basket per desk and table.
10. One (1) tack-board, [ ] inches x [ ] inches.
11. One (1) 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 (1) fax/scanning machine, with at least the following features:
  - a. Dedicated telephone line.
  - b. Compatible to all fax machines.
  - c. Scanning capability with 1200 dots per inch (dpi) maximum resolution.
  - d. All paper and required accessories for the length of the Project duration.

### 3.2 PARKING FACILITIES

The Contractor shall provide well drained, graded paved, or well compacted gravel surface for use by the Owner's staff. Provide not less than [ ] parking spaces for standard sedans and pickup trucks.

### 3.3 MAINTENANCE AND CLEANING

- A. Daily janitorial service shall be provided for offices with periodic cleaning and maintenance for storage areas.
- B. The Contractor shall maintain approach walks free of mud and water.
- C. The Contractor shall be responsible for all costs associated with equipment and services provided for the Owner's Field Office, including costs for equipment and/or services which are provided by the Contractor, but which are not specifically required by this Section.

### 3.4 REMOVAL

- A. At Final Completion of the Project Work, or earlier if agreed by the Owner's Authorized Representative (OAR), the Contractor shall remove the structure(s), foundation, utility services, and all remaining debris and restore the area to its original condition to the satisfaction of the OAR.
- B. [List items to remain property of the Owner]

**PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

**1.1 SUMMARY**

This Section includes the requirements for the construction signage on the Project site including Project identification signs, temporary informational signs, regulatory signs, and warning signs as required for the Project.

**1.2 REQUIREMENTS**

The Contractor shall provide the construction signage on the Project in accordance with the following:

- A. Provide and install the Project identification signs where shown in the Plans. Provide additional information signs at locations as required to direct traffic and control access to the Project site as directed by the Owner's Authorized Representative (OAR).
- B. Provide and install the regulation and warning signs as shown in the Plans. Provide any additional signs at locations required in accordance with the Texas Manual of Uniform Traffic Control Devices (TMUTCD) or as directed by the OAR.
- C. Design the sign panel and support structure to withstand 70 miles per hour wind velocity.
- D. If the Project site includes a corner intersection, one Project identification sign shall be installed on each street of the Project site.
- E. All sign installation shall meet the intersection sight distances (within the sight triangle) requirements in accordance with the Policy on Geometric Design of Highways and Streets published by the American Association of State Highway Transportation Officials (AASHTO) and shall not block or cover any existing sign in same area.
- F. The AASHTO Policy on Geometric Design of Highways and Streets provides information on stopping sight distances and roadway approach sight distances along a roadway and at intersections. 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 shall be removed by the Contractor.
- G. The AASHTO Roadside Design Guide shall be referenced for general "clear zone" information and requirements that affect roadside safety. The AASHTO Roadside Design Guide covers items such as landscaping, fire hydrants, guardrails, utility poles, drainage features, signage, and "clear zone" requirements for non-breakaway barriers.
- H. Any sign installed within the clear zone shall incorporate "break-away" post design installation.

**1.3 SUBMITTALS**

The Contractor shall submit shop drawings of the proposed signs to the OAR within 15 Calendar Days of receiving the Notice to Proceed (NTP) showing content, layout, lettering font/size, color, foundation details, structural materials, sizes and grades of members.

## Construction Signage

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#### 1.4 QUALITY ASSURANCE

The Contractor shall provide sign panels painted by a professional sign painter with a minimum of three (3) years experience in painting specified types of signs or manufactured sign faces from an approved supplier.

### PART 2 – PRODUCTS

#### 2.1 MATERIALS, DIMENSIONS, AND LAYOUT

- A. The Project identification sign shall meet the following requirements:
1. The sign size shall be 96 inches x 48 inches on a panel consisting of 5/8 inch thick medium density overlay (MDO) board.
  2. The sign panel shall be mounted to at least two (2) 4 inch x 4 inch treated lumber posts.
  3. The sign shall be painted white and mounted 30 inches to 36 inches above grade unless otherwise directed by the OAR or specified in the Contract Documents.
  4. The Contractor shall use the sign template in Figure 1 unless otherwise directed by the OAR or otherwise specified in the Contract Documents.



Figure 1

- B. All other signs shall meet the following requirements:
1. Size of signs, height, and lettering font/size shall meet the requirements of the TMUTCD for the intended roadway type and design speed.
  2. Colors shall meet the requirements of the TMUTCD using uniform colors throughout the Project as approved by OAR.
  3. Install sign panel at height for optimum visibility, on ground-mounted poles or as attached to temporary structural surfaces.

## Construction Signage

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#### C. Finishes and Paint:

1. The Contractor shall provide finishes/painting on the signs adequate to withstand weathering, fading and chipping for duration of the Project.
2. If a manufactured sign panel is not provided, the Contractor shall paint the sign panel with two (2) coats of exterior grade paint. Paint may be one coat of primer and one finish coat or two coats of self priming finish paint.
3. Paint lettering on sign using one (1) coat of exterior grade paint.

## **PART 3 – EXECUTION**

### 3.1 GENERAL

- A. A Utility location shall be required and approved before digging the sign foundation.
- B. Existing landscaping and proposed landscaping may lower safety standards with respect to maturity or seasonal growth with respect to line of sight and stopping sight distances. The Contractor shall contact the OAR for consultation and input on any potential areas of concern regarding sight lines and stopping sight distances.

### 3.2 INSTALLATION

- A. Install signs within 30 Calendar Days of receiving the NTP.
- B. Relocate informational signs as required by progress of work.

### 3.3 MAINTENANCE

The Contractor shall maintain all construction signs throughout the Project in a neat, clean condition and repair any damage to sign panel finish or support structure framing.

### 3.4 REMOVAL

The Contractor shall remove all the signs and foundations completely at Final Completion. All holes from foundation removal shall be filled with sand or other properly compacted material as approved by the OAR and the impacted area regraded to its original condition as directed by the OAR.

## **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

1.1 SUMMARY

This Section covers control of dust resulting from construction operations of the Project.

**PART 2 – PRODUCTS**

2.1 GENERAL

Water to be used for dust control on the Project shall be potable or non-potable water obtained from a source approved by the Owner or as directed by the Owner's Authorized Representative (OAR) in accordance with the applicable requirements.

**PART 3 – EXECUTION**

3.1 GENERAL

- A. Prior to the start of construction, the Contractor must submit a Dust Control Plan which will describe the means 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 shall not commence until the Dust Control Plan has been 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. Any dust control complaints received from tenants, airport users, and or the Airport Operations Department shall require 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**

Not Used.

**– END OF SECTION –**

**PART 1 – GENERAL**

1.1 GENERAL

This Section covers the requirements for the construction, maintenance, and removal of a Haul Road required for the Project.

1.2 RELATED DOCUMENTS

The Plans and General Provisions of the Contract, apply to the Work of this Section.

1.3 DESCRIPTION

- A. The Contractor shall perform all Work required to complete the Project as indicated by the Contract Documents and furnish all items necessary for the completion of all work specified in this Section.
- B. The Contractor shall complete all the Work included in this Section including furnishing all labor, tools, materials and incidentals required for installation, maintenance, and removal of a temporary all-weather Haul Road including the restoration of the area to its original condition at the completion of the Project.

1.4 SUBMITTALS

The proposed plans and specifications for the all-weather Haul Road and Contractor's Stormwater Pollution Prevention Plans (SWPPP) shall be submitted for review and acceptance by the OAR.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

3.1 NEW HAUL ROAD

- A. The temporary all-weather Haul Road shall be constructed as shown on the Plans including 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.
- B. The Contractor shall reconstruct the curbs at the curb-cuts when the Haul Road is removed.

3.2 EXISTING HAUL ROAD

- A. If an existing Haul Road(s) will be used as a part of the Project, prior to the start of the Work, the Contractor shall take photo or video documentation of the existing Haul Road.
- B. The Contractor shall maintain the existing Haul Road(s) throughout the Project and shall return the existing Haul Road(s) to the condition prior to the Contractor's use of such road(s).
- C. The restoration of the existing Haul Road shall be performed at the end of use by the Contractor or when directed by the Owner's Authorized Representative (OAR).

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**



## **PART 1 – GENERAL**

### **1.1 STATEMENT OF POLICY**

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**

The following permit application links and/or forms have been included with this Section for the Contractor's use, as applicable:

**A. Vehicle Access Tag (VAT) Application.**

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.

**B. Parking Revenue Area (PRA) Access Permits Air Operations Area (AOA) Access or Parking Revenue Area (PRA) Access Permits (<http://www.dfwairport.com/badge/>), then link to the AOA badge option.**

**C. Airport Identification/Access Badge Application. (<http://www.dfwairport.com/badge/>), then link to the Identification/Access badge option.**

### **1.3 AUTHORITY FOR ENFORCEMENT**

The Airport Vice President Airport Operations (VPAO) is designated as the administrator of the Airport Vehicle Rules and Regulations to control PRA use. The VPAO may, by written order, establish procedures consistent with the Rules and Regulations which he/she determines necessary. The Airport Department of Public Safety (DPS) 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

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form, included in the Section 01 55 20.01, with the Approval Authority along with the fee, if required.

2. 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, included in Section 01 55 20.01, with the Approval Authority along with the fee, if required.
  3. A separate application shall be submitted for each vehicle for which Operating Authority is being requested.
  4. 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) Calendar Days the Holder may reapply for Operating Authority; however, the fee shall be escalated to 100% in

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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) Working Days from the date of receiving notice of the action, the applicant or Holder files a written appeal with the VPAO.
2. The VPAO or his/her designated representative will act as the appeal-hearing officer in an appeal hearing under this Section. The hearing officer will 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. The Contractor may be granted access to the PRA via either 24 hour free parking status or by issuance of a VAT tag as described in subsection 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 Toll Tag from the North Texas Tollway Authority (NTTA) 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 subsection 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 VPAO determines that a Holder violates terms of its Operating Authority or the Code of Rules and Regulations, the VPAO 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 VPAO

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will consider the nature of the violation. If the violation involves equipment that is unsafe or functioning improperly, the VPAO will order the Holder to immediately cease use of the equipment.

2. If the VPAO determines that a violation is an imminent and serious threat to the public health or safety, public parking capacity or revenue loss exists, the VPAO will order the Holder to correct the violation immediately. If the Holder fails to comply, the VPAO will promptly take, or cause to be taken, any action he/she considers necessary to the immediate enforcement of the order.
3. The VPAO 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 VPAO.
4. The VPAO 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 Regulation to be given a driver employed by or contracting with a Holder.
2. Notice by the VPAO 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 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.

**C. Appeal**

1. A Holder may appeal a correction order issued under subsection 1.6.A. above or any other action of the VPAO 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 VPAO or his/her designated representative shall act as the appeal-hearing officer in an appeal hearing under this Section. The appeal-hearing officer

**CONTRACTOR USE OF PARKING REVENUE AREA**  
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shall give the appealing party an opportunity to present evidence and make argument in his behalf.

3. The appeal-hearing officer may affirm, modify, or reverse all or part of the order of the Approval Authority.

**1.7 VEHICLE ACCESS TAG INSTRUCTIONS**

- A. The 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 subsection 1.4 of this Section.

**1.8 FEE SCHEDULE**

- A. Fee shall be as determined by the Owner as per subsection 1.4G of this Section.
- B. The charge for a VAT or PRA parking privileges is established in the 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 VPAO in writing.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

Not Used.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**CONTRACTOR USE OF PARKING REVENUE AREA – INSTRUCTIONS AND FORMS**  
**Section: 01 55 20.01**

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**AOA Vehicle Permits**

An Air Operations Area (AOA) Access Permit is the means by which a motor vehicle is authorized to enter and operate on the AOA and the SIDA. To obtain an Access Permit, complete all requested information on the Air Operations Area Access Permit application or the Temporary Air Operations Area Access Permit in this Section, 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 Airport Access Control Office (ACO).

The following will help you determine which Access 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) Working 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.

**CONTRACTOR USE OF PARKING REVENUE AREA – INSTRUCTIONS AND FORMS**  
**Section: 01 55 20.01**

**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 \_\_\_\_\_

<b>For Access Control Office Use Only</b>			
Permit number: _____	Permit expiration date: _____		
Date received: _____	Date issued: _____	Issued by: _____	

**CONTRACTOR USE OF PARKING REVENUE AREA – INSTRUCTIONS AND FORMS**  
**Section: 01 55 20.01**

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**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

<b>For Access Control Office Use Only</b>			
Permit number: _____	Permit expiration date: _____		
Date received: _____	Date issued: _____	Issued by: _____	



**PART 1 – GENERAL**

1.1 This Section includes all the requirements for the staging areas to be required for the Project.

1.2 SUMMARY

- A. The staging area(s) for the Project shall be assigned by the Airport Environmental Affairs Department (EAD) if shown on the Plans.
- B. The staging area on the Airport shall not be used for the storage of chemicals, materials, and equipment related to any Contractor's off-site work.
- C. The Contractor shall submit an Erosion Control Plan (ECP) and a Storm Water Pollution Prevention Plan (SWPPP) to the Owner's Authorized Representative (OAR) if the staging area(s) is/are not already included in the Plans ECP or SWPPP.
- D. The Contractor shall comply with the EAD Administrative Policy Staging Yard Authorization and Utilization procedures, the International Building Code 2009 (IBC), and the International Fire Code 2009 (IFC) and Local Amendments.

1.2 DEFINITIONS

- A. 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.
- B. Temporary Structure: A portable building, Conex container, or shade structure that will be on-site less than ninety-one (91) Calendar Days from the date of the letter of authorization to construct, deliver, or erect such a structure.

1.3 SUBMITTALS

- A. Site Plan: The Contractor shall submit a proposed site plan to the OAR for review and approval after coordinating the site with the EAD. The site plan shall at a minimum, include 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 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, fueling operations
  - 9. Locations for vehicle or equipment maintenance, including areas for washing of equipment.

**STAGING AREAS**  
**Section: 01 55 29**

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10. Location of storm drains and drainage channels that could receive runoff from the staging area.
  11. Identify the Subcontractors or others that will share the staging area.
  12. Location and methods of containment for any flammables, chemicals or hazmat materials that will be stored in the staging area. Include a Material Safety Data Sheet (MSDS) for all such materials.
- B. The Contractor shall obtain the approval of the OAR for the Subcontractors or others that will share the staging area.
- C. A structure over 1,000 square feet shall be provided with a fire alarm system. For a structure with less than 1,000 square feet, the Contractor shall obtain a determination through the OAR from the Airport Fire Marshal and Design, Code, and Construction Department (DCC) whether a fire alarm or other measures must be incorporated to ensure life safety.

**PART 2 – PRODUCTS**

Not Used.

**PART 3 – EXECUTION**

**3.1 STAGING AREA**

- A. The Contractor shall obtain an EAD Construction Staging Yard Checklist from the OAR.
- B. The entrance to the staging area shall be provided with signs including:
1. The name of the Contractor and all Subcontractors.
  2. Address – To be provided by the OAR
  3. The Contractor's 24 hour emergency contact number.
- C. Project(s) Identifiers: Permit Number, Project Name, Contract Number, SWPPP and NOI notices.
- D. 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 area.
- E. Implement erosion control measures in accordance with Section 01 57 13.
- F. Arrange for a Life Safety Inspection by the DCC after setup, after tear down and annually while the staging area is in operation.
- G. Enclose the staging area with a security fence.
- H. Establish an all-weather access road to ensure emergency equipment access to structures, and material and equipment storage areas in accordance with IFC Chapter 5. Obtain approval of the temporary access road from OAR for the Design, Code, and Construction Department (DCC) and the Airport Fire Marshal.
- I. Install construction exits in areas of ingress/egress, equipment service areas, and in parking areas to prevent rutting and the tracking of mud and in accordance with Section 01 57 13.

**STAGING AREAS**  
**Section: 01 55 29**

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- J. Obtain approval of separate and distinct storage areas, including employee parking from the OAR and the EAD.
- K. Design and construct temporary and permanent structures in accordance with the IBC, IFC, and Local Amendments.
- L. Obtain General Work Permits in accordance with IFC Chapter 105 from the OAR.
- M. Stockpile all materials inside the Contractor staging area.
- N. 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 Chapter 506. Provide a key to each structure inside the staging area in the Knox Box. Order boxes through the Fire Marshal's office.
- O. Park all mobile construction equipment within the staging area at the end of each Working Day.
- P. Store salvageable materials resulting from demolition activities within the staging area or at a supplemental storage area approved by the EAD in accordance with the ECP and SWPPP.
- Q. 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.
- R. Follow the IFC 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 and properly seal containers and label each container. Provide any secondary containment as appropriate.

**3.2 MAINTENANCE OF STAGING AREA**

The Contractor shall maintain the staging area throughout the Project including, but not limited to the following:

- A. Maintain the perimeter fence in good repair and proper alignment.
- B. Comply with IFC 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 the staging area daily for spills, standing water, and other sources of contamination. Immediately implement reporting and removal procedures when found in accordance with Section 01 57 19.13.
- D. Properly clean dirt or mud that becomes tracked out of staging area onto paved or surfaced roadways as soon as possible and no later than the same Working Day and eliminate the source of the tracking material.
- E. Maintain all-weather roads to ensure emergency equipment access to structures, equipment, and material storage areas. Repair potholes and ruts as they are identified and no later than     hours after identification.

**STAGING AREAS**  
**Section: 01 55 29**

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**3.3 RESTORATION OF STAGING AREA**

At the end of the Project, the Contractor shall restore the staging area at Substantial Completion to its pre-existing condition, or as otherwise directed by the OAR, by performing the following:

- A. Remove all structures, materials and equipment from within the staging area.
- B. Remove all fencing and fence posts completely or as otherwise directed by the OAR.
- C. Fill in all holes and depressions.
- D. Remove all gravel and apply [ ] inches of clean top soil and seeding as needed to restore the site to a stabilized condition or as otherwise directed by the OAR.

**3.4 CLOSURE**

- A. The OAR will perform a Final Stabilization inspection and approval of the OAR is required prior to being approved for Construction Permit Closure.
- B. A final fire and life safety inspection will be conducted by the DCC and Fire Marshal to determine if the site meets all relevant codes.
- C. The Owner may, at their discretion, not require the staging area to be demobilized and restored if the staging area will subsequently be utilized to support in-progress Airport projects.

In such case, the later contractor will be required to fulfill all of the guidelines to ensure the staging area is maintained and updated if the current Contractor is requested to turn over the staging area.

- D. If the Contractor is involved in more than one contract on the Airport that warrants a staging area, the Contractor may transfer the staging area responsibilities into the most current SWPPP when the Contractor has completed the Project.
- E. The OAR will be solely responsible for all interpretations of codes and guidelines, and will make the final determination. The Construction Permit Closure shall not be granted until all OAR approvals have been obtained.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# TEMPORARY EROSION AND SEDIMENT CONTROL

## Section: 01 57 13

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### PART 1 – GENERAL

#### 1.1 SUMMARY

- A. This Section covers all the temporary erosion controls required by the Contractor during the construction of the Project.
- B. The Contractor shall conform to the Owner's policies and regulations and all Federal, State, and local environmental regulations pertaining to the prevention of storm water pollutants, including the Texas Pollutant Discharge Elimination System (TPDES) General Permit TXR150000 and all applicable Owner storm water requirements.
- C. 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.

#### 1.2 DEFINITIONS

- A. iSWM: Integrated Storm Water Management. A program of Best Management Practice (BMP) manuals and technical manuals published by the North Central Texas Council of Governments (NCTCOG) for control of quality of storm water runoff from construction activities.
- B. 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 based on best industry practices.

#### 1.3 SUBMITTALS

- A. The Contractor shall attend an Environmental Review Meeting prior to obtaining a construction permit. In that meeting, the Airport Environmental Affairs Department (EAD) will discuss the environmental submittals required for the Project.
- B. All documents that require mailing to the Texas Commission on Environmental Quality (TCEQ) shall be submitted to the OAR for forwarding to EAD to perform the mailing.
- C. If the Project is subject to the TPDES Construction General Permit (CGP), the Contractor shall prepare a site-specific Storm Water Pollution Prevention Plan (SWPPP). A copy of the SWPPP, the original Construction Site Notice (CSN), Delegation of Authority Letter, and Notice of Intent (NOI) shall be submitted to the OAR for forwarding to the EAD, prior to obtaining a construction permit and prior to beginning any construction activities.
- D. If the Project disturbs less than one (1) acre of soil and is not part of a SWPPP a site-specific Erosion Control Plan (ECP) shall be submitted to the OAR for review and approval of the EAD.
- 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 Superintendent, or the delegated inspector, and submitted to the OAR.

## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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- F. Submit the following close-out documentation to the OAR, prior to demobilizing or when Final Stabilization is achieved whichever comes first.
  - 1. If the Project required an ECP, submit copies of all inspection reports.
  - 2. If the Project required an 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 CGP.
  - 3. If the Project required a NOI, a completed, signed Notice of Termination (NOT) of coverage.

## PART 2 - PLANS

### 2.1 EROSION CONTROL PLANS

- A. If the Project disturbs less than one (1) acre of soil and that is not covered under an SWPPP, then the Project must submit a project specific ECP.
- B. An ECP template has been prepared by the Owner and is available at <https://www.dfwairport.com/sustainability/index.php>. The Contractor shall complete the ECP template and submit to the OAR for EAD approval prior to obtaining a construction permit.
- C. The ECP addresses the following topics:
  - 1. Detailed site description
  - 2. Names of the Contractor and all 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. The Contractor shall designate the onsite contact person responsible for implementing the ECP with 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. Inspections:
  - 1. The Contractor shall employ and provide a qualified inspector to provide and record inspections of the Project site and all associated areas such as staging area(s) a minimum of once every fourteen (14) Calendar Days and within 24 hours after any storm event of greater than 0.5 inch or an alternate schedule of once (1) every seven (7) Calendar Days on the same day each week.

## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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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. The Owner reserves 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.
- F. The Contractor shall maintain a copy of the ECP onsite available for review by Federal/State inspectors or the OAR within 24 hours of a review request.

#### 2.2 STORM WATER POLLUTION PREVENTION PLANS

- A. The Contractor shall apply for and meet the requirements and provisions of the TPDES CGP, Permit No. TXR150000, under the permitting authority of the TCEQ. A copy of the CGP and other information can be found at the TCEQ website <https://www.tceq.texas.gov/permitting/stormwater/construction>

The SWPPP shall adhere to the requirements in TXR150000, and include the following statements as required by the local authority having jurisdiction, the Airport. These statements are considered BMPs that the Contractor shall be responsible for implementing on the Project.

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 Owner at an outfall sampling point downstream of the Project, the Contractor will be asked to pH test standing water (rainwater or groundwater) at the Project 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 wastewater 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 the Airport through a reputable company as wastewater.
4. The following segments are listed as impaired waters on either the Clean Water Act (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.

## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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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 Project shall be identified and BMPs incorporated into the SWPPP. All portable toilets shall be located at least 50 feet away from any storm drain inlet and at least 100 feet away from the edge of a surface water.

5. Include a list of all Subcontractors in the SWPPP and require a responsible representative of each Subcontractor sign an acknowledgement certifying they are aware of the SWPPP regulations and shall abide by them for this Project.
- B. The Contractor shall 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 OAR when the Plans or funds are insufficient to meet or maintain the standards of the CGP.
- 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. The Contractor shall employ and provide a qualified inspector to provide and record inspections of the Project site and all associated areas including staging area(s) a minimum of once (1) every fourteen (14) Calendar Days and within 24 hours after any storm event of greater than 0.5 inch, or an alternate schedule of once (1) every seven (7) Calendar 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. The Owner reserves 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. The Contractor shall maintain a copy of the SWPPP onsite available for review by Federal, State or the OAR within 24 hours of a review request.

## PART 3 PRODUCTS

### 3.1 MATERIALS

- A. All erosion and sediment controls shall adhere to the NCTCOG iSWM program. Other published material guidelines may be accepted upon submittal for review and approval to EAD, through the OAR.



## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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- 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 on the Project.
- D. Do not use straw wattles 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 NCTCOG iSWM program. Replace or change controls as needed to restore effectiveness.

## PART 4 - EXECUTION

### 4.1 GENERAL

The Contractor shall:

- 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 capture and remove any sediment that escapes from the Project site. The Contractor shall be responsible for documenting any pre-existing accumulated sediment or debris.
- B. Install and maintain all BMPs and structural controls in accordance with the NCTCOG iSWM program and any additional manuals approved by the EAD, through the OAR.
- C. Immediately correct ineffective control measures and implement new or additional controls as directed by the OAR.
- 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 by:
  - 1. Provide protected storage areas for paints, chemicals, solvents, fertilizers, and other potential pollutants.
  - 2. Store containers on a raised surface.
  - 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

## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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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 Contractor shall perform the following:

1. The ECP or SWPPP must have been approved by the EAD.
2. Submit NOI to the OAR for forwarding to TCEQ (if applicable), and coordinate submission of the NOI and payment of filing fees with the EAD, through the OAR.
3. Post the CSN at the Project site (if applicable)
4. Provide a hardcopy of the ECP or SWPPP at the Project site
5. All storm water management controls for the initial phase of construction shall 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 Project 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 sections of the Project site.

#### 4.3 MAINTENANCE

A. General

1. Maintain all erosion, sediment, and pollutant control measures in effective operating condition throughout the Project until Final Acceptance.
2. The EAD will inspect the project for environmental compliance and any deficiencies, including installation and maintenance of storm water controls, shall be corrected in the time indicated.
3. If the Contractor fails to correct the deficiencies to the satisfaction of the EAD, the Owner may separately contract a crew to perform the necessary maintenance and the cost will be deducted from Contract Amount.

B. Construction Exit

1. Maintain construction entrance/exits in a condition which will prevent the tracking of sediment onto any paved surface.
2. For stone exits, periodically re-grade and top with additional stone to maintain efficiency in removal of tracked materials.

C. Perimeter Control

1. Inspect the perimeter of the Project site regularly and remove sediment before it reaches half the height of the control.

## TEMPORARY EROSION AND SEDIMENT CONTROL

### Section: 01 57 13

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2. Ensure perimeter BMPs are properly embedded or toed-in and repair any under-cutting the BMP.

#### D. Check Dam

When a check dam is required for erosion control on the Project, the Contractor shall provide the check dam meeting the following requirements:

1. The top of the ends of the check dam shall be a minimum of 12 inches higher than the middle of the dam, unless otherwise directed by the OAR.
2. The check 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 check dam.
3. The check dam shall be inspected regularly, and sediment removed when it reaches approximately one-third the height of the check dam or 12 inches, whichever is less.

#### E. Inlet Protection

When inlet protection is required for erosion control on the Project, the Contractor shall provide the inlet protection meeting the following requirements:

1. Inspect the inlet protection regularly for damage.
2. Remove any blockage from the inlet or inlet protection after every storm event.
3. Clean and/or replace the inlet protection when clogged with sediment, to ensure effectiveness.
4. Remove sediment from the inlet protection before it reaches approximately 50 percent of the design height or volume of the inlet protection.

#### 4.4 CLOSE OUT

- A. Prior to close-out of the construction permit, the EAD, through the OAR, must approve the Final Stabilization, or the transfer of responsibility for the SWPPP or ECP to another contractor.

1. The Contractor shall request an inspection to determine if the Final Stabilization meeting the CGP definition has been accomplished.
2. If the EAD determines Final Stabilization has been accomplished, the Contractor shall submit, through the OAR, the following
  - a. The NOT, as applicable, shall be submitted to the OAR for forwarding to TCEQ after approval from the EAD.
  - b. All Project inspection reports.
  - c. All amendments incorporated into the SWPPP or ECP during construction.
  - d. Additional recordkeeping as required by the CGP, as applicable.

- B. The Contractor shall remove all materials, wastes, and temporary BMPs from the Project site including any accumulated sediment issues identified by the OAR.

## **TEMPORARY EROSION AND SEDIMENT CONTROL**

### **Section: 01 57 13**

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- C. The Contractor shall fully resolve any issue of non-compliance or violation brought by a Federal or State agency.
- D. The Contractor shall have completed all submittals and received approvals required for closeout.

#### **PART 5 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 - GENERAL**

**1.1 SUMMARY**

This Section requires the Contractor to provide design and construction information for all oil products temporarily or permanently stored on the Airport. It identifies when a spill prevention control and countermeasure (SPCC) plan is required, and what information is required to update the existing Owner's SPCC.

**1.2 SUBMITTALS**

The Contractor shall submit the following to the Owner's Authorized Representative (OAR) for review and approval:

- A. A Project site specific SPCC plan.
- B. An inventory of all permanent oil containers installed or removed on Airport property.

**1.3 DEFINITIONS**

- A. 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.
- B. 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.

**1.4 TEMPORARY OIL STORAGE**

If during the construction of the Project, oil products will be temporarily transported on the Project site, the following requirements shall be considered by the Contractor:

- 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 Project, the Contractor must prepare a SPCC plan.
- B. Prior to construction permit approval, the Contractor shall submit to the OAR for the Airport Environmental Affairs Department (EAD) review and approval, construction site specific SPCC plan. The site specific plan shall meet the requirements of Code of Federal Regulations (CFR) Title 40, Part 112, and include at a minimum:
  - 1. An inventory of all oil storage containers on the Project site.
  - 2. The total capacity of each storage container.
  - 3. Type of material stored in each storage container.
  - 4. Design information on secondary containment or diversionary methods utilized in order to prevent release of the materials stored in the containers.
- C. The Contractor shall monitor increases or decreases in total oil container capacity throughout the Project.
  - 1. If the total onsite oil container volumes change, or the type of materials change, the Contractor shall amend the site specific SPCC plan and resubmit to the OAR.

## Spill Prevention Control and Countermeasure

### Section: 01 57 19

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2. If the total capacity of onsite oil containers drops below 1320 gallons before the Project closeout, the site specific SPCC plan may be discontinued. The Contractor shall notify the OAR in writing of the changes and obtain written approval from the EAD, through the OAR, to discontinue the site-specific SPCC plan.
- D. At the Substantial Completion of the Project, or when otherwise approved by the OAR, the Contractor shall remove all stored materials and clean/correct any spotting or evidence of spills created by the stored materials. Spill removal shall comply with the requirements in Section 01 57 19.13 - Spill Response Plan and Section 01 33 29.06.01 - Contaminated Media Management Plan.

#### 1.5 PERMANENT OIL CONTAINERS

If during construction of the Project, permanent oil containers are installed or removed from the Project site, the following requirements shall be considered by the Contractor:

- A. An inventory of permanent oil containers installed or removed shall be submitted to the OAR for the EAD review. The submitted inventory shall include:
  1. The capacity of each storage container added or removed
  2. The type of materials to be stored in each container
  3. Description of the secondary containment or diversionary methods utilized by storage container.
- B. The inventory shall be submitted with the environmental close-out checklist prior to Project closeout.

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

- END OF SECTION -

# SPILL RESPONSE

## Section: 01 57 19.13

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### PART 1 - GENERAL

#### 1.1 SUMMARY

This Section provides the minimum procedures to prevent, prepare for, notify, and respond to any spills during the Project when it involves fuels, oils, paints, chemicals, regulated substances, or other hazardous materials.

#### 1.2 DEFINITIONS

- A. 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.
- B. 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.
- C. Spill: Any release or discharge from designated/designed 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.

#### 1.3 SUBMITTALS

The Contractor shall submit to the Owner's Authorized Representative (OAR) the following:

- A. A Spill Response Plan (SRP) to be reviewed and approved by the Airport Environmental Affairs Department (EAD) prior to obtaining a building permit.
- B. For spills exceeding the reportable quantity for the material, submit a report with the information identified in subsection 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 subsection 2.2(B) within 25 Calendar Days of the event.

#### 1.4 SPILL RESPONSE PLAN

- A. The Spill Response Plan form can be located at:  
[https://www.dfairport.com/cs/groups/webcontent/documents/webasset/p1\\_021796.doc](https://www.dfairport.com/cs/groups/webcontent/documents/webasset/p1_021796.doc)
- B. An SRP shall be provided when the construction of the Project requires the use or storage of fuels, oils, paints, chemicals, and any other material in quantities that may pose a threat to human health or the environment.

## **SPILL RESPONSE**

### **Section: 01 57 19.13**

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- C. The Contractor shall review the SRP on a regular basis, and update when any of the following occurs:
  - 1. Applicable regulations are revised.
  - 2. The SRP fails in an emergency.
  - 3. The Project 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 – PRODUCTS**

Not Used.

## **PART 3 – EXECUTION**

### **3.1 SPILL EVENTS**

- A. The Contractor shall report all spills immediately by phone to Airport Operations Center (AOC) at 972-973-3112 and activate the SRP immediately upon discovery of a spill event.
- B. For spills that exceed the reportable quantity for that material, the EAD will notify the Texas Commission on Environmental Quality (TCEQ) and/or National Response Center (NRC) 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 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.



## **SPILL RESPONSE**

### **Section: 01 57 19.13**

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- C. For spills that exceed the reportable quantity for that material, provide a written report of the information requested in 2.1 (C) to the OAR, within 48-hours of the spill. The EAD will review the report.
- D. Manage all waste in accordance with Section 01 74 19.
- E. All Contractor caused spills shall be cleaned by the Contractor at his sole expense.

#### **3.2 POST-SPILL ACTIVITIES**

- A. EAD will determine adequacy of the Contractor's cleanup activities. If the Contractor fails to cleanup spill to the satisfaction of the EAD, the Owner will separately contract a response crew to clean up the spill and the cost will be deducted from Contract Amount.
- B. For spills that exceed the reportable quantity for that material, the Contractor shall provide a written report to the OAR within 25 Calendar 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 subsection 2.1 (C).
- C. Additional information as requested by the Owner.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**

**Spill Response Plan Form**

**Section: 01 57 19.13.01**

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**Spill Response Plan**

**Project Name:** \_\_\_\_\_

**Permit Number:** \_\_\_\_\_

**General Contractors Name:** \_\_\_\_\_

**Site Superintendent's Name and phone number:**

\_\_\_\_\_

**Start Date:** \_\_\_\_\_

**End Date:** \_\_\_\_\_

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)
- 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 Project spills that exceed the reportable quantity contact the Airport Environmental Affairs Department (EAD). The EAD will notify the TCEQ and NRC.
- Construction Manager (CM), and tenant coordinator, as applicable.

**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 Superintendent or Emergency Response Coordinator will work with EAD and CM 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 the CM and the EAD describing the cause of the release, the total quantity of material discharged, description of the 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 NRC within the allowable time frames and provide copies of all reports to the CM and the EAD.

**Spill Response Plan Form**

**Section: 01 57 19.13.01**

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Project Description:

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List of Spillable Materials on Project site: (including fluids from heavy equipment, applied materials such as paint, stored chemicals, adhesives, granular materials, admixes)

Material (i.e. diesel fuel, paint, hydraulic fluid)	Estimated quantity	Storage location (Where is it stored? i.e. excavator, drum, 5-gallon bucket)

Fueling:

Will fueling of vehicles or equipment be done on site? If yes, describe method

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Preparedness:

What spill response equipment and supplies will be maintained on site?

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Prepared by:

Printed Name

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Signature

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Company

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Date

# PRODUCT STORAGE AND HANDLING REQUIREMENTS

## Section: 01 66 00

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### PART 1 - GENERAL

#### 1.1 SUMMARY

This Section covers the requirements for the storage, protection, and maintenance of construction materials and storage areas on the Project.

### PART 2 - PRODUCTS

Not Used.

### PART 3 - EXECUTION

#### 3.1 STORAGE, GENERAL

The Contractor shall provide for the storage of construction materials and products for the Work of the Project in accordance with the following:

- A. Store products, immediately upon delivery at a location approved by the Owner's Authorized Representative (OAR), in accordance with manufacturer's instructions, with seals and labels intact. Protect such products until in final installed condition.  
Material shall not be stored in the ramp/operational terminal areas.
- B. Deliver products too large to fit through openings to the Project site in advance of the time enclosing walls and roofs are erected. Set such products in place on raised cribs.
- C. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.
- D. Inspect stored products frequently to ensure that the products are maintained in acceptable conditions.
- E. Replace any products determined to be damaged upon delivery or damaged while in storage. A Contract Time extension will not be granted for re-ordering of the damaged products.
- F. Provide access to the OAR for progress payment verification and approval purposes.
- G. Arrange for ordering and storing approved long lead items.
- H. Provide bonded off-site storage and protection when the Project site does not permit on-site storage or protection.

#### 3.2 ENCLOSED STORAGE

The Contractor shall provide adequate enclosed product storage on the Project site meeting the following requirements:

- A. Store products, subject to damage by the elements, in substantial weather-tight enclosures.
- B. Maintain temperature, humidity, and ventilation as required by the manufacturer's instructions.
- C. Store unpacked and loose products on shelves, in bins, or in neat groups of like items.

## **PRODUCT STORAGE AND HANDLING REQUIREMENTS**

### **Section: 01 66 00**

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#### **3.3 EXTERIOR STORAGE**

The Contractor shall provide exterior storage on the Project site meeting the following requirements:

- 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 and provide adequate 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 the Plans or as directed by the OAR.

#### **3.4 MAINTENANCE OF EQUIPMENT STORAGE**

The Contractor shall protect and maintain mechanical and electrical equipment in storage throughout the Project including, but not limited to, the following:

- A. Provide the supplier's service instructions on the exterior of the package.
- B. Service equipment on a regular basis as recommended by the supplier. Maintain a log of maintenance services and submit the log as Record Data at the Final Completion of the Project.
- C. Provide power to and energize space heaters for all equipment for which these devices are provided.
- D. Provide temporary enclosures for all electrical equipment, including electrical systems on mechanical devices. Provide and maintain heat in the enclosures until equipment is energized.

#### **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 - GENERAL**

1.1 SUMMARY

This Section includes the following:

- A. Mobilization of equipment, personnel, material, supplies, tools, and all other resources necessary prior to beginning the Work.
- B. Establishment of temporary facilities and all other facilities necessary prior to beginning the Work.
- C. When a staging area is required in the Plans, the Contractor shall abide by the Land Use Application provided in Section 01 71 14.01.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

3.1 PROJECT INITIATION

- A. The Mobilization fee shall not exceed eight (8) percent of the total Contract Amount.
- B. The Contractor shall complete all required coordination and forms, submit permits and insurance certificates prior to beginning any construction activity.
- C. The Contractor may complete all required temporary facilities as outlined in the Division 01 Sections prior to other construction activities and complete the move-in process after the Land Use Application has been completed and approved.
- D. The Contractor shall coordinate with the Owner's Authorized Representative (OAR) to establish the Project submittals procedures, Baseline Schedule and payment procedures.

3.2 FINAL CLEANUP

Complete clean up and submit all required final documentation prior to move-out.

**PART 4 - MEASUREMENT AND PAYMENT**

A. Measurement

Measurement of the item "Mobilization" will be by the "Lump Sum," as the Work progresses as specified in the Contract.

B. Payment

- 1. When one (1) percent of the Contract Amount has been earned by the Contractor, 50 percent of the Mobilization Pay Item or five (5) percent of the total Contract Amount, whichever is less, will be paid. Previous payments under this item will be deducted from this amount.
- 2. When five (5) percent of the Contract Amount has been earned, 75 percent of the Mobilization Pay Item, or ten (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 ten (10) percent of the Contract Amount is earned, 90 percent of the Mobilization Pay Item or 15 percent of the total Contract Amount, whichever is

**MOBILIZATION**  
**Section: 01 71 13**

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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 Mobilization Pay Item will be paid.

**- END OF SECTION -**

## **LAND USE REQUIREMENTS**

### **Section: 01 71 14**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Provide a temporary staging area for the Contractor for the Project in accordance with Section 01 55 29.
- B. The Owner's Authorized Representative (OAR) shall confirm the Project requires a staging area and is stated in the Contract.
- C. The OAR shall be responsible for enforcement of any compliance issues that may occur on the site of the staging area and trailer lot.

##### **1.2 SUBMITTALS**

- A. The Contractor shall submit a Land Use Application to the OAR for the Land Use Committee (LUC) within 7 Calendar Days of the Notice to Proceed (NTP). The Land Use, Staging Yard, and Trailer Application forms and procedures are provided in Section 01 71 14.01.
- B. Site Plan: If the staging area(s) are not designated in the Contract Documents, the Contractor shall coordinate with the Airport Environmental Affairs Department (EAD), through the OAR, and submit to the OAR a proposed site plan in accordance with the Section 01 55 29. The site plan shall be reviewed by the LUC. There is a mandatory ten (10) Calendar Day review process by the LUC.

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

##### **3.1 STAGING AREA**

- A. The Contractor shall provide signage at the entrance to the staging area in accordance with Section 01 55 29.
- B. The Contractor shall implement erosion control measures in accordance with Section 01 57 13.
- C. 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.

##### **3.2 CLOSURE**

- A. A Final Stabilization inspection and a fire and safety inspection shall be required in accordance with the Section 01 55 29 prior to approval for a Construction Permit Closure.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



**Land Use Application Procedure**

**All Land Use Applications require an Airport permit number**

- Permits can be acquired at [dfwsubmittals@dfwairport.com](mailto:dfwsubmittals@dfwairport.com)
- For Permit questions, contact the Airport Permit Coordinator

**Airport In-House Board Projects:**

For all Airport projects, the below procedures are required for all Land Use Application submittals.

- Contact the Airport Land Use Manager for an application.
- DFW Project Manager to verify if an FAA Form 7460-1 – Notice of Proposed Construction or Alteration is required for this staging area operation. The form can be found at the following:  
[https://www.faa.gov/documentLibrary/media/Form/FAA\\_Form\\_7460-1\\_AJV-1-050117.pdf](https://www.faa.gov/documentLibrary/media/Form/FAA_Form_7460-1_AJV-1-050117.pdf)
- When a Form 7460-1 is required, an FAA review of 45 to 60 Calendar Days must be completed, before a determination letter is sent from the FAA.
- The Contract must state that the Airport will provide a staging area and or a trailer lot area.
- DFW Project Manager must verify and signs your application.
- Complete application for either staging area or trailer lot.
- Provide exhibit of location wanted for staging area. (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 the staging area will be stated in an authorization letter.
- Review of application may take up to 10 Working Days.
- When approved, an authorization letter will be sent to you.
- Land Use Application are valid for up to 12 months at a time only

**Staging Area Application Procedure**

**Contractor Land Use Application for Staging Area**

**Version Date:** September 2018

**Permit No:**

**A. To be completed by Contractor:**

1. Airport Contract Number and Construction Application Number.

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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).

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*Provide all company names, mailing addresses, phone numbers, and e-mail addresses.*

[Click here to enter text.](#)

3. Location and description of staging area.

---

*Include address of the Project site, summary of scope of work and add a pdf from Google Earth of staging area location.*

[Click here to enter text.](#)

4. List all materials to be stored in the staging area.

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*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 area.

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*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 area.

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*Examples: equipment servicing, vehicular maintenance, fueling, etc.*

*Note that only maintenance identified in this application may be performed in the area.*

[Click here to enter text.](#)

**Land Use Requirements - Forms**

**Section: 01 71 14.01**

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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 Areas.

*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.*

**Print Name:** \_\_\_\_\_

**B. To be completed by your 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.](#)

**Owner's Authorized Representative:**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_

**Directions for submission of application:**

A. Complete the following applications:

1) General Application

Contact the Airport Land Use Manager with any questions.

2) Erosion Control Plan

Contact the Airport EAD with any questions.

3) Spill Response Plan

Contact the Airport EAD with any questions.

B. Submit all 3 applications to the Airport Land Use Manager.

C. Allow 2-3 weeks for Letter of Authorization to be issued.

**Trailer Application Procedure**

**Contractor Land Use Application for Trailer Lot**

**Version Date:** September 2018

**Permit No:**

**A. To be completed by Contractor:**

1. Airport Contract Number and Construction Application Number.

Contract # [Click here to enter text.](#)  
(9500xxx)

CA# [Click here to enter text.](#)  
(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 the 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 area.*

[Click here to enter text.](#)

**Land Use Requirements - Forms**

**Section: 01 71 14.01**

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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.](#)  
enter a date.

Expiration Date: [Click here to](#)

*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 Owner's Authorized Representative:**

1. Occupancy term.

Start Date: [Click here to enter a date.](#)  
*First date land use is required*

End Date: [Click here to enter a date.](#)  
*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.](#)

**Owner's Authorized Representative:**

**Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_

**Directions for submission of application:**

A. Complete the following applications:

1) General Application

Contact the Airport Land Use Manager with any questions.

2) Erosion Control Plan

Contact the Airport EAD with any questions.

3) Spill Response Plan

Contact the Airport EAD with any questions.

B. Submit all 3 applications to Airport Land Use Manager.

C. Allow 2-3 weeks for Letter of Authorization to be issued.

# CUTTING AND PATCHING

## Section: 01 73 29

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### PART 1 – GENERAL

#### 1.1 SUMMARY

This Section includes the requirements and limitations of cutting and patching as part of the 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 a 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 the affected Work.
  - 3. Necessity for cutting, alteration or excavation.
  - 4. Effect on any work of the 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.



## **CUTTING AND PATCHING**

### **Section: 01 73 29**

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- C. Submit a request for Substitution should conditions of Work or schedule indicate change of products from original installation.
- D. Submit written notice to the OAR designating date and time the work will be uncovered or altered.

#### **1.4 COORDINATION**

Coordinate the 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**

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 requirements of the Contract Documents, and use materials comparable with the original materials and where recognized that satisfactory results can be produced thereby.
- B. Submit request from the OAR 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 the 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 OAR. Do not proceed with the Work until notified by the OAR.

#### **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.

#### **3.3 DUST CONTROL**

Provide positive methods of dust control and apply dust control materials to minimize raising dust from cutting and patching operations.

## **CUTTING AND PATCHING**

### **Section: 01 73 29**

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#### **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 which will not cause to damage to materials to be retained and work adjoining the cut area.
  - 1. Flame cutting of the reinforcing bars is discouraged but permitted if in compliance with the requirements of the American Welding Society (AWS) D.1.1 Structural Welding Code – Steel and D.1.4 Structural Welding Code – Reinforcing Steel by an experienced welder and as per directions by the OAR. Flame cutting in the Air Operations Area (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 the Contract Documents. 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.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## **PROGRESS CLEANING**

### **Section: 01 74 13**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

This Section covers the requirements of cleaning the Work area and disposal of waste materials, debris, and rubbish during construction of the Project.

#### **PART 2 – PRODUCTS**

##### **2.1 EQUIPMENT**

The Contractor shall provide covered containers for waste materials, debris, and rubbish.

#### **PART 3 – EXECUTION**

##### **3.1 CLEANING**

The Contractor shall perform the following and as may be directed by the Owner's Authorized Representative (OAR):

- 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 Air Operations Area (AOA) and all haul routes free of any debris that may be generated from a construction activity.

##### **3.2 DISPOSAL**

Collect and remove waste materials, debris, and rubbish from the Project site in accordance with Section 01 74 19.

##### **3.3 OWNER'S RIGHT TO CLEAN UP**

The Owner may provide progress cleaning if the Contractor fails to comply with this Section. In such case, the Owner will deduct the cost of this cleanup effort from the Contract Amount.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# CONCRETE WASTE

## Section: 01 74 18

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### PART 1 - GENERAL

#### 1.1 SUMMARY

This Section describes the procedures and practices to minimize or eliminate discharge of concrete waste to storm drain systems or water courses throughout the performance of the Work.

#### 1.2 SUBMITTALS

- A. The Contractor shall submit the following to the Owner's Authorized Representative (OAR):
1. A detail for a Contractor concrete slurry containment system; and
  2. A detail for a Contractor concrete washout area.

#### 1.3 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 335, Industrial Solid Waste and Municipal Hazardous Waste.
  2. Code of Federal Regulation (CFR): Title 40 Part 131 Water Quality Standards

### PART 2 – PRODUCTS

Not Used.

### PART 3 – EXECUTION

#### 3.1 CONCRETE SLURRY

- A. General
1. The Contractor shall contain all concrete slurry to prevent discharge to a storm drain or surface water.
  2. The concrete slurry shall be continuously vacuumed during sawcutting and slurry and cuttings shall not be allowed to remain on the pavement to dry.
  3. The Contractor shall remove slurry residue by abrasion (e.g. scraping or bristle broom) until no further residue may be loosened and only a stain remains.
  4. When the Contractor is performing a sawcut operation near a storm drain, the Contractor shall place sand bags or a similar Best Management Practice (BMP) to block the drain during such activities.
  5. The Contractor shall remove the BMP immediately upon completion of the sawcut operation.
- B. Slurry Container
1. The Contractor shall place the vacuumed slurry into a water-tight slurry waste container and place a sign on the waste container stating "Concrete Slurry Waste Only" in English and Spanish.
  2. The slurry shall be allowed to dry prior to disposal and the hardened slurry waste shall be disposed in accordance with Section 01 74 19.

## CONCRETE WASTE

### Section: 01 74 18

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#### C. Slurry Containment

1. If a large amount of concrete slurry waste is anticipated, the Contractor may construct an on-site slurry containment facility.
2. The Contractor shall submit a construction detail or design plan to the OAR to obtain the approval of the Airport Environmental Affairs Department (EAD) prior to construction.
3. The onsite containment may be accomplished through an excavation or constructing a berm to contain the slurry at the surface. Any containment area shall be lined with plastic a minimum of 10 millimeters thick.
4. The containment shall not be located within 50 feet of an inlet, swale, drainage way, channel, and other continuous or interim water body.
5. The Contractor shall place a sign adjacent to the containment stating "Concrete Slurry Waste Only" in English and Spanish.
6. The concrete slurry shall be removed by the Contractor when containment is 50 percent full, and always maintain a minimum of one (1) foot freeboard.
7. Allow slurry to dry before disposal.
  - a. If it is not feasible to wait for slurry water to evaporate prior to disposal, the Contractor may coordinate with the EAD for additional options.
  - b. Any water discharged from a slurry containment area shall not exceed a pH of 8.0.
8. The Contractor shall remove all materials used to construct the concrete slurry containment area from the work site and dispose of waste in accordance with Section 01 74 19.

### 3.2 CONCRETE TRUCK WASHOUT

#### A. General

1. The Contractor shall contain all concrete truck washout water to prevent discharge to a storm drain or surface water.
2. The concrete truck washout containers shall provide sufficient volume to completely contain all liquid and concrete waste generated during washout procedures and a minimum one (1) foot freeboard shall be maintained at all times.
3. The Contractor shall use a vacuum truck to remove excess water and prevent overflowing of the washout containers.
4. Any concrete truck washout shall be located a minimum of 50 feet away from an inlet, swale, drainage way, channel, and other continuous or intermittent water body.
5. The Contractor shall obtain written approval from the OAR and the Airport Operations Department prior to placing a concrete truck washout on the AOA.

#### B. Owner Provided Concrete Washout Bin

1. The Owner may supply a concrete washout bin for the Project under a separate contract. The EAD will determine if the Project meets the

## CONCRETE WASTE

### Section: 01 74 18

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requirements to receive a concrete washout bin based on the size of the Project, amount of concrete to be poured, and location of the Project.

2. All requests for service for the Concrete washout bin shall be coordinated with the EAD, through the OAR, a minimum of 48 hours or two (2) Working Days in advance of the need.
  3. The EAD will coordinate bin delivery, the removal of excess water, relocating a bin, replacing a bin, and removing a bin through the OAR.
  4. The only materials allowed to be placed in the concrete washout 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.**
  5. The concrete washout bin shall not be moved or shifted in any way. Damage caused to the concrete washout bin shall be paid by the Contractor to the owner of the bin directly. Any damages not paid by the Contractor shall be deducted from the Contract Amount.
- C. Contractor Provided Concrete Washout Facility
1. When the Owner will not supply a concrete washout bin, or that the bin provided is not suitable for the Contractor's operation, the Contractor may construct a concrete washout facility.
  2. The Contractor shall submit a construction detail or design plan to the OAR for EAD approval prior to construction.
  3. The washout facility shall include a containment area accomplished through an excavation or constructing a berm to contain the material at the surface. The containment area shall be lined with plastic a minimum of 10 millimeters thick.
  4. The containment area shall be designed to provide six (6) cubic feet of storage for every ten (10) cubic yards of concrete poured.
  5. The Contractor shall allow concrete washout to harden prior to disposal and the hardened waste shall be disposed in accordance with Section 01 74 19.
    - a) If it is not feasible to wait for concrete waste water to evaporate prior to material disposal, the Contractor shall coordinate through the OAR with the EAD for additional options of disposal.
    - b) Any water discharged from the containment area shall not exceed a pH of 8.0.
  6. The Contractor shall break down any residual materials and dispose such materials in accordance with Section 01 74 19.
  7. The Contractor shall remove the containment area within seven (7) Calendar Days of completing the concrete pours, or as soon as the concrete has hardened in the containment area to avoid collecting stormwater or as otherwise directed by the OAR.

## PART 4 – MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

# CONSTRUCTION WASTE

## Section: 01 74 19

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### 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 the Environmental Affairs Department (EAD) procedures.
- B. The Owner 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 the 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 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 Airport site/facility – The waste generated is to be managed as Owner generated wastes.
  - 2. All waste resulting from materials brought on-site by Contractor or waste resulting from Work (that is not Owner 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.

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### Section: 01 74 19

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- 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 the Owner.
- 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 Texas Commission on Environmental Quality (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.

#### 1.3 ABBREVIATIONS

- A. CESQG: Conditionally Exempt Small Quantity Generator as defined in 40 CFR 261.5.
- B. NELAC: National Environmental Laboratory Accreditation Conference.
- C. NVLAP: National Voluntary Laboratory Accreditation Program.
- D. SMP: Soil Management Plan
- E. WMP: Waste Management Plan
- F. WMR: Waste Management Report

#### 1.4 REFERENCES

- A. The following is a list of standards which may be referenced in this Section:
  - 1. Code of Federal Regulations (CFR):
    - 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



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- j. Title 49 Part 172, Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements, and Security Plans
- k. Title 49 Part 173, Shippers – General Requirements for Shipments and Packagings
- l. Title 49 Part 177, Carriage by Public Highway
- m. Title 49 Part 178, Specifications for Packagings
- 2. Texas Administrative Code:
  - a. TAC Title 30 Chapter 335, Industrial Solid Waste and Municipal Hazardous Waste
- 3. Environmental Protection Agency Guidance:
  - a. Characterization of Building-Related Construction and Demolition in the United States.
  - b. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, Compendium (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 and Hazardous Waste: Rules and Regulations for Small Quantity Generators
  - d. RG-366/TRRP-13, Review and Reporting of COC Concentration Data under TRRP
  - e. Industrial and Hazardous Waste Sampling and Shipping Procedures
- 5. Airport Publications:
  - a. Green Building Standards (GBS)
  - b. Contaminated Media Management Plan
  - c. Integrated Waste Management & Pollution Prevention Plan

#### 1.5 SUBMITTALS

- A. A Waste Management Plan (WMP) shall be submitted to the Owner's Authorized Representative (OAR) prior to receiving permit approval from the EAD.
- B. A Waste Management Report (WMR) shall be submitted on the first of each month, and upon request by the OAR.
- C. Waste profile documentation (process knowledge, waste profile form, applicable Material Safety Data Sheets (MSDS), and/or any analytical results) shall be submitted to the EAD, through the OAR, prior to submission to the landfill, for each hazardous or industrial waste stream.
- D. Submit copies of manifests for all Owner generated regulated waste to the EAD, through the OAR, upon request and during Project close-out.

## CONSTRUCTION WASTE

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- E. Submit copies of all construction demolition and landscaping waste or recycling documentation to the EAD, through the OAR, upon request.

#### PART 2 - PRODUCTS

Not Used.

#### PART 3 - EXECUTION

##### 3.1 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 shall be responsible for the profiling, transportation, and disposal of all waste generated within the Project site 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 shall only use disposal or recycling facilities listed on the Pre-Approved Disposal/Landfill Facilities list. The list can be located at: <https://www.dfairport.com/sustainability/index.php>  
Landfills or Recycling facilities not listed, will need to be audited by the EAD before they will be added as an approved disposal location.
- E. The Contractor shall ensure all waste leaves the Airport property with the proper shipping paperwork. When waste is ready for disposal it must be transported by a licensed Department of Transportation (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 (1) year from the date of generation. Hazardous wastes must be disposed of within six (6) months of the date of generation.
- G. The following are a list of commonly encountered regulated wastes:
  - 1. Class 1 Non-Hazardous: Texas-specific classifications.
  - 2. Class 2 Non-Hazardous: Texas-specific classifications.
  - 3. Asbestos;
  - 4. Grease-trap waste;
  - 5. Grit-trap waste;
  - 6. Mercury containing equipment;
  - 7. Non-reusable soil;

## CONSTRUCTION WASTE

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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 Project shall be communicated immediately to the EAD, 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.

#### 3.2 WASTE MANAGEMENT PLAN

- A. Prior to obtaining a building permit, provide a 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.

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 enters the Project 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 WMP does not relieve the Contractor of responsibility for compliance with applicable environmental regulations.

#### 3.3 REGULATED WASTE MANAGEMENT OF OWNER GENERATED WASTES

- A. The Owner shall be considered the generator of all existing waste. Any waste resulting from materials brought on-site by the Contractor or waste resulting from work from an entity that is not the Owner, is to be managed as Contractor generated wastes. The Owner’s waste shall not be mixed with any other generator’s waste.
- B. The EAD, through the OAR, will provide the Contractor with a regulated waste determination. The Contractor shall provide process knowledge form, MSDS, and /or lab results for the potentially regulated waste streams to the EAD, through the OAR.

The process knowledge form can be located at:

<https://www.dfwairport.com/sustainability/index.php>

- C. When sampling soil, the Contaminated Media Management Plan (CMMP) shall be followed.
- D. The Contractor shall prepare the waste profile documents required by the landfill, including, at a minimum, the process knowledge, the waste profile form, applicable MSDS, and/or any analytical results. All waste profiles, and supporting

## CONSTRUCTION WASTE

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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 Owner generated wastes are reviewed, and signed by an Owner's employee, or a representative designated by the Vice President, Environmental Affairs. Notification to the EAD, through the OAR, shall be provided, in advance, so that manifest signing arrangements can be coordinated. All shipping documents must be provided to the 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.

#### 3.4 REGULATED WASTE MANAGEMENT OF CONTRACTOR GENERATED WASTE

- A. Any waste resulting from materials brought on-site by the Contractor or waste resulting from work from an entity that is not the Owner, shall be managed as Contractor generated wastes. Contractor generated wastes shall not be mixed with any generated waste from the Owner.
- 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 provided to the Owner's staff, through the OAR, upon request.
- C. Testing and analysis of potentially regulated waste streams shall be provided to the 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 the EAD, through the OAR, upon request.

#### 3.5 CONSTRUCTION, DEMOLITION, LAND CLEARING WASTE (CDL) & RECYCLING, REUSE SALVAGE MANAGEMENT

- A. The Contractor shall submit a WMR to the EAD, through the OAR, on the first of each month and upon request. The WMR can be located at:  
<https://www.dfairport.com/sustainability/index.php>

The waste management report includes the following information:

1. List of disposed, recycled, salvaged, or reused materials
  2. The quantity of the materials
  3. Copy of disposal or recycling receipts
  4. Salvage documentation
  5. 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 an Owner approved landfill or recycling location.

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- 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 WMR.
- E. The Contractor shall remove and properly dispose of CDL waste from the Project site on a regular basis. CDL waste shall not be allowed to accumulate on the Project 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

#### 3.6 WASTE MANAGEMENT PLAN IMPLEMENTATION

- A. Provide copies of the WMP 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, in accordance with 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.

## **CONSTRUCTION WASTE**

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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 percent non-recyclable material, by volume.
11. Retain Owner generated wastes on the 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 observe the following:
  - 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.

## **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## **FINAL CLEANING**

### **Section: 01 74 23**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

This Section covers the requirements for the Contractor to perform the final cleaning of the Project site.

##### **1.2 PROJECT CONDITIONS**

The Contractor shall conduct cleaning and waste disposal operations in full compliance with Federal, State, and local environmental and antipollution regulations, ordinances and laws.

- A. Do not dispose of volatile wastes such as mineral spirits, oil, or paint thinner in stormwater or sanitary waste disposal systems.
- B. Do not burn or bury debris, rubbish, or other waste material on the Project site.
- C. 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. The Contractor shall use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. The Contractor shall 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 the Owner's Authorized Representative (OAR) before requesting inspection for 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.
- C. Remove temporary protection and labels.
- D. Clean and polish transparent, reflective and glossy surfaces to a clear shine.
- E. Vacuum clean carpet.
- F. Clean resilient and hard-surface floors.
- G. Clean sealed joints.
- H. 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.

## **FINAL CLEANING**

### **Section: 01 74 23**

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- I. Clean light fixtures, lamps, globes, and reflectors. Replace burned out lamps and defective starters.
- J. Maintain clean condition on the Project site until Final Acceptance.
- K. Remove waste, foreign matter and debris from roofs, gutters, areaways and drainage systems. Flush roof drainage system with water until clear.
- L. Remove waste, debris and surplus materials from the Project site. Clean grounds; remove stains, spills, and foreign substances from paved areas and sweep clean. Rake clean other exterior surfaces.

#### **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



# PROTECTING INSTALLED CONSTRUCTION

## Section: 01 76 00

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### PART 1 – GENERAL

This Section covers the requirements for the Contractor to protect the completed and/or installed Work on the Project.

### PART 2 – PRODUCTS

Not Used.

### PART 3 – EXECUTION

#### 3.1 PROTECTION OF NEWLY INSTALLED WORK

The Contractor shall protect all installed work until Final Acceptance of the Project by the Owner using appropriate and effective means including, but not limited to, the following:

- A. Restrict construction workers and traffic from completed and protected areas.
- B. Prohibit all unnecessary traffic and storage from surfaces covered by roofing or waterproofing.
- C. Provide adequate resilient protection and durable work platforms over all surfaces covered by roofing or waterproofing.
- D. Provide clean, smooth plywood, or finished wood boards under all ladders, staging, or scaffolding placed on roofing and waterproofing.
- E. 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 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 Final Acceptance by the Owner. Repair or replace all damaged materials as needed to achieve this requirement at no additional cost to the Owner.
- F. Effectively protect all 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 any portion of the Work which becomes water or moisture damaged.
  2. Remove and replace any portion of the Work which shows evidence of biological growth, mold, and mildew.

### PART 4 – MEASUREMENT AND PAYMENT

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

1.1 SUMMARY

This Section covers the use of a Punch List for the Project Closeout process on the Project.

1.2 DOCUMENTATION

- A. All notifications, documentation, and transmittals between the Contractor and other Owner's personnel as part of the Punch List process shall utilize the Skire Unifier software application, unless an alternate form of transmission is directed by the Owner for the Project.
- B. If an alternate form of transmission is directed for the Project, all notifications, documentation, and transmittals shall utilize that form of transmission.

**PART 2 - PRODUCTS**

Not Used.

**PART 3 - EXECUTION**

3.1 SUBSTANTIAL COMPLETION

A. INSPECTION

- 1. Either party may initiate procedures for Substantial Completion of the Work in its entirety or a designated portion thereof. When the Contractor considers the Work (or a portion thereof that the Owner agrees to accept separately) is substantially complete, the Contractor shall notify the Construction Manager (CM) that the Project is considered ready for an inspection for Substantial Completion in accordance with Section 01 77 00 and shall prepare and submit to the CM a comprehensive list of items to be completed or corrected prior to Final Acceptance. Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents.
- 2. Upon receiving the notification and the list, the CM will schedule a walk-through inspection for the Project with the Contractor, the Inspector, and other Owner's personnel which may have input on the Project or portion of the Project identified ready for inspection in the Contractor's notification.
- 3. Upon completion of the walk-through inspection, the CM will document the results of the inspection and shall prepare a Punch List that includes all items which are determined to be incomplete or do not meet the requirements of the Contract Documents.
- 4. The CM will notify the Contractor of the Punch List. Contractor shall, before issuance of a notice of Substantial Completion, complete or correct those items on the Punch List.

B. CORRECTIVE ACTION

- 1. The Contractor shall review the Punch List and initiate repairs or other Corrective Action necessary to address each item on the Punch List to bring that item or portion of the Work into compliance with the Contract Documents.

**PUNCH LIST**  
**Section: 01 76 50**

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2. The Contractor shall contact and coordinate with the CM to discuss or provide any unique Corrective Action for review and approval that will be required as part of the Work to resolve a Punch List item.
  3. The Contractor shall complete each item identified on the Punch List, including those that had impacted the use and occupancy of I/S/E, unless the CM has pre-approved specific items on the Punch List as an exception for approval or for follow-up work.
  4. The Contractor shall notify the CM that the Project is ready for a following walk-through inspection and shall prepare and submit to the Construction Manager an updated comprehensive list of items to be completed or corrected prior to Final Acceptance.
- C. REINSPECTION
1. Upon notification by the Contractor that the Work is ready for a follow-up inspection, the CM will schedule the inspection for confirmation that the Punch List items are in conformance with the Contract Documents.
  2. At the completion of the follow-up inspection, the Inspector or other Owner's personnel will report the results to the CM, the CM will close each Punch List item or reject the item. The Contractor shall, before issuance of a notice of Substantial Completion, complete or correct those items on the Punch List.
  3. When all items on the Punch List have been closed, the CM will close the Punch List.
  4. The CM shall have the final decision as to whether or not the Contractor has achieved Substantial Completion. When the CM determines that the Work or designated portion thereof is substantially complete, which determination shall not be unreasonably withheld, the CM will notify the Contractor that Substantial Completion has been achieved, which notice shall establish the date of Substantial Completion.
  5. Immediately prior to the issuance of a notice of Substantial Completion, the CM and the Contractor shall jointly inspect and document the condition of the Work, or designated portion thereof, to determine and record its condition, and the CM and the Contractor shall develop a final punch list which must be completed prior to Final Acceptance. The final punch list shall include all punch list items and other incomplete or missing items which CM elected in its discretion to waive for purposes of Substantial Completion. Any inspection and acceptance by Owner shall not, however, alter the Contractor's responsibility to complete all Work in accordance with the Contract Documents, including items discovered by Owner after Substantial Completion.

3.2 FINAL ACCEPTANCE

A. INSPECTION

1. When the Contractor considers that the Work is finally complete, the Contractor shall notify the CM that the Project is ready for Final Inspection in accordance with Section 01 77 00 and shall provide the CM with all submittals required for Final Acceptance.

**PUNCH LIST**  
**Section: 01 76 50**

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2. Upon receiving the notification, the CM will schedule the Final Inspection with the Contractor, the Inspector, and other Owner's personnel which may have input on the Project.
  3. Upon completion of the Final Inspection and all submittals required for Final Acceptance, the CM will update the Punch List noting all items are completed or identifying items incomplete or otherwise do not meet the requirements of the Contract Documents.
  4. The CM will notify the Contractor of the status of the Punch List and whether it is complete or whether outstanding items exist.
- B. CORRECTIVE ACTION**
1. If any items on the Punch List are still outstanding, the Contractor shall complete those outstanding items as required until all items are completed.
  2. The Contractor shall notify the CM that the Project is ready for a follow-up inspection.
- C. REINSPECTION**
1. Upon notification by the Contractor that the Work is ready for a follow-up inspection, the CM will schedule the follow-up inspection.
  2. Upon completion of the follow-up inspection, the Inspector or other Owner's personnel will report the results to the CM and the CM that will close each Punch List item or reject them.
  3. When all items on the Punch List have been closed, the CM will close the Punch List.
  4. The CM will notify the Contractor that the Punch List has been closed. The CM shall have the final decision as to whether the Contractor has achieved Final Completion, which approval shall not be unreasonably withheld. When the CM agrees that the Work is finally complete, the CM shall so notify the Contractor and set the date of Final Acceptance.

**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

# CLOSEOUT PROCEDURES

## Section: 01 77 00

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### PART 1 – GENERAL

1.1 This Section covers the requirements for closeout on all Projects.

#### 1.2 COMMISSIONING

The Project may require a formal Commissioning process for one or more specific items of infrastructure, systems, and equipment (Systems). If Commissioning is included for Systems as part of the Project, refer to the Section 01 77 00.01 for additional information, procedures, and requirements for acceptance of such Systems by the Airport Energy, Transportation and Asset Management (ETAM) Department.

Section 01 91 00 includes more detailed requirements and explanation of the Commissioning Process.

1.3 The following items are included as part of the Project Closeout:

- A. Substantial Completion
- B. Final Inspection
- C. Closeout Submittals
- D. Evidence of payments and release of liens
- E. Final Adjustment of Accounts
- F. Final Payment Application
- G. Additional Adjustment
- H. Post-Construction Examination

### PART 2 - PRODUCTS

Not Used.

### PART 3 - EXECUTION

#### 3.1 SUBSTANTIAL COMPLETION

- A. Either party may initiate procedures for Substantial Completion of the Work in its entirety or a designated portion thereof. When the Contractor considers the Work to be substantially complete (or a portion thereof that the Owner agrees to accept separately), submit to the Construction Manager (CM) the following:
  - 1. Written certification that the Work and/or a designated portion thereof, is substantially complete.
  - 2. A list of items to be completed or corrected prior to Final Acceptance, recognized as incomplete, and reasons the Work is not complete. Contractor shall proceed promptly to complete and correct items on the list. Failure to include an item on such list does not alter the responsibility of Contractor to complete all Work in accordance with the Contract Documents.
- B. Within seven (7) Calendar Days after receipt of such certificate and list, the CM will make examination to determine status of completion.
- C. If the CM determines that the Work is not substantially complete:

## CLOSEOUT PROCEDURES

### Section: 01 77 00

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1. The CM will promptly notify the Contractor in writing, providing the reasons for the such determination, and a Punch List including all the noted issues.
  2. The Contractor shall remedy the noted deficiencies in the Work, and send a second written notice to the CM claiming Substantial Completion has been achieved on the Project and shall prepare and submit to the CM an updated comprehensive list of items to be completed or corrected prior to Final Acceptance.
  3. The CM will then re-examine the status of the Work.
- D. Upon the determination by the CM that the Work is substantially complete (the CM shall have the final decision as to whether or not the Contractor has achieved Substantial Completion, which approval shall not be unreasonably withheld), the CM will:
1. Prepare a Certificate of Substantial Completion, accompanied by Contractor's list of items that are recognized as outstanding and remain to be completed or corrected, as verified and amended by the CM.
  2. Submit a certificate to the Contractor for written acceptance of responsibilities assigned to the Contractor in the certificate.

As a condition to Substantial Completion, the Contractor shall (a) advise the CM of any pending insurance changeover requirements and (b) obtain and submit the Temporary Certificate of Occupancy, operating certificates, and similar releases enabling the Owner unrestricted use of the Project site.

Immediately prior to the issuance of a Certificate of Substantial Completion, the CM and the Contractor shall jointly inspect and document the condition of the Work, or designated portion thereof, to determine and record its condition, and the CM and the Contractor shall develop a final punch list which must be completed prior to Final Acceptance. The final punch list shall include all punch list items and other incomplete or missing items which CM elected in its discretion to waive for purposes of Substantial Completion. Any inspection and acceptance by Owner shall not, however, alter the Contractor's responsibility to complete all Work in accordance with the Contract Documents, including items discovered by Owner after Substantial Completion.

- E. After the Work or a designated portion thereof is substantially complete, the Contractor shall:
1. Allow the Owner occupancy of Project site under any provisions stated in the Certificate of Substantial Completion.
  2. Complete the items listed for completion or correction within the certificate and/or final punch list provided by the CM.
  3. Perform final cleaning in accordance with Section 01 74 23.

### 3.2 FINAL INSPECTION

- A. When the Contractor considers that the Work is finally complete, the Contractor shall provide the CM with all submittals required for Final Acceptance and shall submit written certification that:

## CLOSEOUT PROCEDURES

### Section: 01 77 00

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1. The Work has been examined for compliance and has been completed in accordance with Contract Documents.
  2. Equipment and systems have been tested in presence of the CM and are operational.
  3. Work is completed and ready for final examination.
- B. The CM will re-examine the Project site to verify status of completion within seven (7) Calendar Days after receipt of such certification.
- C. If the CM considers that any part of the Work is incomplete or defective:
1. The CM will promptly notify the Contractor in writing, listing incomplete or defective work.
  2. The Contractor shall take immediate steps to remedy stated deficiencies, and send second written certification to the CM that the Work is complete.
  3. The CM will re-examine work.
- D. When the CM determines that the Work is acceptable under Contract Documents (the CM shall have the final decision as to whether the Work is acceptable under the Contract Documents, which approval shall not be unreasonably withheld), he/she will notify the Contractor begin with the closeout submittals, who shall provide the CM with any remaining: (a) closeout submittals, (b) evidence of payments and release of liens, (c) final accounting, and (e) such other construction documents, certificates, warranties, instruments, and affidavits relating to the Work as the Owner may reasonably require.

### 3.3 CLOSEOUT SUBMITTALS

- A. Evidence of compliance with requirements of governing authorities:
1. Certificate of Occupancy.
  2. Certificates of Inspection: Mechanical and Electrical systems as required by respective Sections.
  3. Commissioning test plan, results/report, and Corrective Actions documentation.
- B. Project Record Documents: Provide the record documents in accordance with Section 01 78 39.
- C. Operations and Maintenance Data: Provide the data in accordance with Section 01 78 23.
- D. Spare Parts and Maintenance Materials:
1. Provide products, spare parts, and maintenance materials in quantities specified in each Section in addition to that required for completion of the Work.
  2. Coordinate delivery to the Project site with the CM and store items properly and obtain a receipt prior to Final Payment.

### 3.4 EVIDENCE OF PAYMENTS AND RELEASE OF LIENS

The Contractor shall deliver the following items to the CM:

- A. Affidavit of Payment of Debts and Claims
- B. Affidavit of Release of Liens

## CLOSEOUT PROCEDURES

### Section: 01 77 00

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- C. Affidavit of Release of Liens attachments:
  - 1. Consent of Surety to Final Payment
  - 2. 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 CM.

#### 3.5 FINAL ADJUSTMENT OF ACCOUNTS

- A. Submit final statement of accounting to the CM.
- B. Statement shall reflect adjustments to Contract Amount:
  - 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 Amount, as adjusted
  - 4. Previous payments
  - 5. Contract Amount remaining due
- C. The CM will prepare a final Change Order, reflecting approved adjustments to Contract Amount, which were not previously incorporated previous Change Orders.

#### 3.6 FINAL APPLICATION FOR PAYMENT

The Contractor shall submit final Payment Application in accordance with procedures and requirements stated in Conditions of the Contract. Final Payment shall not relieve the Contractor of any warranty obligations contained in the Contract Documents or at law, nor shall it act as a waiver of any claims relating to, but not limited to, any of the following, whether known or unknown at the time of Final Payment: (1) any liens or encumbrances, (2) any matter for which the Contractor or any subcontractor of any tier is liable or responsible at law, (3) any obligations or liability relating to the Contractor's warranties provided in the Contract Documents, (4) failure of the Work to comply with the Contract Documents, or (5) any breach or inaccuracy of any of the Contractor's representations or warranties under the Contract Documents, any Contractor Certificate or under any affidavit, certificate or other instrument or document provided to the Owner. In all cases, the Contractor, without prejudice to the terms of the Contract Documents shall be liable to the Owner for latent defects, fraud, or such gross mistakes as may amount to fraud, or as regards the Owner's rights under any warranty and guaranty and all applicable laws.



## **CLOSEOUT PROCEDURES**

### **Section: 01 77 00**

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#### **3.7 ADDITIONAL ADJUSTMENT**

No adjustments to the Contract requested by Contractor will be allowed if asserted after execution of Final Payment on the Contract. Acceptance of final payment by the Contractor shall constitute a final and irrevocable release and waiver of claims and additional amounts, whether or not any such claims or potential claims arise in contract or in tort or were known or unknown at the time of the application for final payment.

#### **3.8 POST-CONSTRUCTION EXAMINATION**

- A. Prior to expiration of one (1) year from date of Substantial Completion, the Owner's Authorized Representative (OAR), accompanied by other required Owner's personnel, will make visual examination of Project site in the company of the Contractor to determine whether further correction of work is required in accordance with provisions of the Contract.
- B. The OAR will promptly notify the Contractor, in writing, of any observed deficiencies.
- C. The Contractor will contact the OAR to arrange time and establish a schedule for correction of deficiencies and verification by the OAR, and other required Owner's personnel, of the corrected discrepancies.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**

# CLOSEOUT PROCEDURES – SYSTEM ACCEPTANCE

## Section: 01 77 00.01

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### PART 1 - GENERAL

- 1.1 This Section establishes the procedures required for acceptance of infrastructure, systems, and equipment (Systems) by the Airport Energy, Transportation and Asset Management (ETAM) Department when Commissioning such Systems is included as part of the Project.
- 1.2 The procedures herein shall be incorporated into the Project in coordination with Project Closeout requirements included in Section 01 77 00 and the Commissioning requirements included in Section 01 91 00.

### PART 2 – PRODUCTS

Not Used.

### PART 3 - EXECUTION

#### 3.1 PRE-SUBSTANTIAL COMPLETION

- A. Commissioning of Systems
  1. Pre-Functional Checklists (PFCs) and Functional Performance Tests (FPTs) shall be conducted in accordance with the Commissioning Plan.
  2. The Commissioning Issues Log shall be uploaded in Skier Unifier by the Commissioning Agent (CxAg).
- B. Informal inspections of the Systems by the Airport Energy, Transportation and Asset Management (ETAM) Department requested by Contractor are conducted by ETAM as coordinated by the Owner's Authorized Representative (OAR)
- C. The Contractor requests OAR for formal inspection of completed Systems installation(s).
- D. The OAR sends a request to the ETAM Commissioning Manager (CxM) to facilitate scheduling walkthrough inspection(s) by the OAR, Contractor, CxAg and ETAM representatives responsible for operating and/or maintaining the Systems. Note that the Systems may require a demonstration conducted by the Contractor as requested by the ETAM representative as part of the inspection.
- E. The Punch List from the walkthrough inspection will be compiled by the CxM who will provide the Punch List to the CxAg to incorporate into the Commissioning Issues Log for non-commissionable items (items not in the Commissioning Plan). In addition, items impacting the use of the Systems will be noted.
- F. The Contractor shall notify the OAR that Punch List items, including those that had impacted the use of Systems, have been resolved and the OAR notifies the CxM to facilitate scheduling a verification walkthrough by the responsible ETAM representatives as well as the CxAg. Note that the Systems may require a demonstration conducted by the Contractor as requested by the ETAM representative as part of the verification.
- G. In coordination with the CxM, the CxAg notes the completion/resolution of Punch List items in Cx Issues Log for non-commissionable items.
- H. The CxAg will complete the review of the following (any issues from this review will be included in the Commissioning Issues Log):
  1. Operation and Maintenance (O&M) Manual(s)

## **CLOSEOUT PROCEDURES – SYSTEM ACCEPTANCE**

### **Section: 01 77 00.01**

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2. As-Built CAD drawings
  3. As-Built PDF file (.pdf)
  4. As-Built 3D Model (when applicable)
  5. Equipment lists
- I. The CxAg will verify the completion of the following (any issues with this verification will be included in the Commissioning Issues Log):
    1. Required training
    2. Warranty certificates
    3. Accessories delivered to ETAM
  - J. Upon notification to the ETAM Systems Performance Group (SPG) Manager by the OAR that all items on the Commissioning Issues Log (both commissionable and non-commissionable), including those that had impacted the use of the Systems, have been resolved as reported by the CxAg, the SPG Manager will send an email to the OAR declaring ETAM's acceptance of the Systems upon achievement of Substantial Completion of the Project.

### **3.2 SUBSTANTIAL COMPLETION**

- A. The Airport Design, Code, and Construction (DCC) Department issues a Temporary Certificate of Occupancy.
- B. Warranties become effective and managed by the ETAM SPG Warranty Administrator.
- C. ETAM assumes ownership of installed Systems that ETAM will have operation and/or maintenance responsibility.
- D. All remaining punch list items, which were determined not to impact the beneficial use of Systems, are resolved.

### **3.3 FINAL ACCEPTANCE**

- A. The Commissioning Report will be completed by the CxAg and approved by the Commissioning Authority (CxAu).
- B. DCC issues a final Certificate of Occupancy.

## **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**

**PART 1 – GENERAL**

**1.1 SUMMARY**

This Section covers the requirements for the Operation and Maintenance (O&M) Manuals for all new operating equipment and systems furnished by the Contractor, and all materials and finishes as noted in specific Sections.

**1.2 O&M, COMMISSIONING, TRAINING and WARRANTY SUBMITTALS**

**A. Delivery Method**

The Contractor shall provide the Owner's Authorized Representative (OAR) the manuals for the Project as follows:

- B.** Submit one (1) digital copy of the preliminary draft and three (3) hardbound copies and one (1) digital copy of the final complete manual as approved by the Owner.
- C.** Each electronic submission shall utilize the Skier Unifier software application, or as otherwise directed by the OAR, with a notification that an electronic submittal has been uploaded and is ready for review and comment.
  - 1. If any content will not upload into the Skier Unifier software application, deliver electronic material to the OAR in the form of a DVD in digital PDF format, for review and comment.
  - 2. The OAR will review the draft and return submittal comments electronically through the Unifier software application.
  - 3. Upon successful completion of all O&M or Warranty Manual edits, the final version of the manual(s) will be uploaded into the Unifier software application, in the proper destination folder. In addition, two (2) hardbound copies of the final O&M Manual(s) shall be submitted to the OAR in complete form and delivered to the OAR with a transmittal letter.
  - 4. Delivery Quantity- The Contractor and all Subcontractors shall upload all approved Project Record documents into the appropriate folder in the Unifier software application, including, but not limited to, the O&M, Warranty, Project Record Drawings, and one (1) set of Training DVD's. In addition, one (1) hardbound copy and three (3) DVD copies of all finalized and approved O&M and Warranty Manuals, Project Record Drawings, and two (2) Training DVDs shall be delivered to the OAR.
- D.** Provide final the O&M Manual(s) for all equipment placed into service and operated by the Owner prior to Substantial Completion.
- E.** Utilizing the Owner provided data collection spreadsheet(s), complete the ETAB 101-New Equipment/Asset Inventory Form, ETAB 102-New Equipment/Asset Preventive Maintenance Task & Schedule Form, and ETAB 104-Equipment Warranty Information Form, as determined by the OAR.

The ETAB Equipment Asset Information EAM Forms may be obtained from a link on the following web-page:

<https://www.dfwairport.com/development/index.php>.
- F.** Produce and deliver a professional quality video DVD recording for each training/instruction session. Refer to Section 01 79 00 for additional information.

## OPERATION AND MAINTENANCE DATA

### Section: 01 78 23

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#### G. Format of Electronic Submittal – O&M and Warranty

The Table of Contents directory shall be hyper-linked to the corresponding O&M section, shop drawing, and warranty chapters for expedited access. All digital PDF material is to be formatted for optical character recognition (OCR). All tables shall match the hardbound manual(s) in labeling and wording. The tables shall include active links as well.

#### H. 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 inch x 11 inch, 3 inch 3-ring binders with hardback, cleanable, clear plastic covers with pockets. Binder assembly shall not exceed 75 percent of the 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; 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 **A**th 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

The Contractor shall prepare instructions and data by personnel experienced in maintenance and operation of described products.

### 1.4 PROJECT RECORD DRAWINGS

Project Record Drawings: The Contractor shall prepare new drawings where the OAR determines that neither the latest Contract Drawings nor the shop drawings are suitable to show the actual installation.

- A. Coordinate with the OAR for the proper scale and scope of detailing and notations required to record the actual physical installation and its relation to other construction.
- B. When completing newly prepared drawings, utilize the procedures specified for organizing, copying, binding and submittal of Permanent Record Drawings in Section 01 78 39. All drawings shall include the required Airport "project record" stamp and

## OPERATION AND MAINTENANCE DATA

### Section: 01 78 23

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professional seals, Contract and Permit numbers, and printed name and signature of the authorized contracted individual.

- C. All final Project Record Drawings will be prepared from the finalized Project CAD files, and assembled in a digital .DWG and PDF format in accordance with Section 01 78 39. 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 provided on a DVD and submitted to the OAR, with appropriate Project information on label.

#### 1.5 TAB FOR MATERIALS AND FINISHES

The Contractor shall prepare and organize the materials and finishes information in accordance with the following:

- 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. Include colorized photos of material finishes.
- 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.
- C. Moisture-protection and Weather-exposed Products: Include product data listing applicable reference standards, chemical composition, and details of installation. Provide recommendations for inspections, maintenance, and repair.
- D. Additional Requirements: Refer to the individual Specifications Sections, as applicable.
- E. Provide a listing in Table of Contents for design data, with tabbed flysheet and space for insertion of data.

#### 1.6 MANUAL FOR EQUIPMENT AND SYSTEMS

The Contractor shall prepare and organize the manual(s) for equipment and systems information in accordance with the following:

- A. Each item of equipment and each system: Include description of unit or system, and component parts. Provide the 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 trouble-shooting; disassembly, repair, re-assembly instructions; and alignment, adjusting, balancing, and checking instructions.

## OPERATION AND MAINTENANCE DATA

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- F. Provide servicing and lubrication schedule, and list of lubricants required.
- G. Include the manufacturer's printed operation and maintenance instructions.
- H. Include the 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 and/or shop drawings by the controls manufacturer.
- K. Provide the 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 a 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 of the Project.
- O. Additional Requirements: As specified in individual Sections.
- P. Provide a listing in the Table of Contents for design data, with tabbed flysheet and space for insertion of data.

## PART 2 – PRODUCTS

### 2.1 CONTENTS, EACH VOLUME

The Contractor shall organize the information in accordance with the following:

- A. Table of Contents: Provide title of Project including the Contract number and permit number; names, addresses and telephone numbers of the OAR and the 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.

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- 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 a copy at the end of each applicable section.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



## BONDS AND WARRANTIES

### Section: 01 78 33.36

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#### PART 1 – GENERAL

##### 1.1 SUMMARY

This Section includes the general administrative and procedural requirements for warranties and bonds required of the Contractor based of the Contract Documents, including manufacturer's standard warranties on products and special warranties.

The Contractor shall perform the following:

- A. Compile all the specified warranties and bonds.
- B. Compile the specified service and maintenance contracts.
- C. Co-execute submittals when so specified.
- D. Review submittals to verify compliance with Contract Documents.
- E. Submit to Owner's Authorized Representative (OAR) 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:** The Owner reserves the right to make emergency repairs as required to keep systems, equipment, or materials in operation or to prevent damage to persons or property without voiding Contractor's warranty or bond, or relieving the Contractor of its responsibilities during the Contract, warranty, or bond periods.

##### 1.3 WARRANTY REQUIREMENTS

- A. **Related damages and losses:** When correcting warranted Work that has failed, the Contractor shall 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., the reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation but not less than 50 percent 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 as determined by the OAR and 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 the Owner by electronic communications, requesting repair work covered by warranty, the Contractor shall provide on-site response by repair team no later than twenty-four (24) hours from time of initial contact.

## **BONDS AND WARRANTIES**

### **Section: 01 78 33.36**

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#### 1.4 SUBMITTAL REQUIREMENTS

- A. Assemble the warranties, bonds, service contracts, and maintenance contracts, executed by each of the respective manufacturers, suppliers, and Subcontractors.
- B. Place all documents for each product in a separate tabbed section in the warranty book. Provide a Table of Contents listing each section in the binder.
- C. Provide complete information for each item at the front of each tabbed section summarizing the following detail for each warranty section:
  - 1. Product or work item name.
  - 2. The Contractor or vendor responsible for the warranty, with name of the authorized representative, mobile number, email address, business address and telephone number.
  - 3. Scope of the warranty.
  - 4. Date of the 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. The Contractor or vendor, name of responsible principal, address, and telephone number.
- D. Provide two (2) original signed copies of each warranty requiring a signature or other authentication.
- E. Provide a completed Excel spreadsheets with ETAM 104-Equipment Warranty Information Form in accordance with Section 01 78 23.

#### 1.5 FORM OF SUBMITTALS

- A. Format:
  - 1. Size 8-½ inches x 11 inches sheets punched for standard 3-ring binder.
  - 2. Fold larger sheets to fit into binders.
  - 3. Cover with DFW Brand: Identify each packet with typed or printed title "Bonds and Warranties".
  - 4. List:
    - a. Title of Project.
    - b. Contract Number
    - c. Name of Contractor.
- B. Binders: Commercial quality, white, 3-ring and no larger than three (3") inch diameter rings, with durable and cleanable plastic covers as approved by the OAR.

## **BONDS AND WARRANTIES**

### **Section: 01 78 33.36**

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#### 1.6 TIME OF SUBMITTALS

- A. Submit draft warranties along to the OAR through the Skire Unifier software application and one (1) hard copy to the Commissioning Agent (CxAg) 90 Calendar Days prior to Substantial Completion. Provide signed warranties or a letter of intent indicating that the draft warranty shall be provided with the final warranty book at Substantial Completion.
- B. Submit the final warranties to the OAR at Substantial Completion.
  - 1. When a designated portion of the Work is completed and occupied or used by the Owner, submit properly executed warranties to the OAR within fifteen (15) Working Days of the turnover of that designated portion of the Work to the Owner.
  - 2. For items of work, where Final Acceptance is delayed materially beyond of Substantial Completion, provide an updated submittal within ten (10) Calendar Days after acceptance, listing date of acceptance as start of warranty period.

#### 1.7 SUBMITTALS REQUIRED

Submit all warranties, bonds, service contracts and maintenance contracts as specified in each respective Section.

#### **PART 2 – PRODUCTS**

Not Used.

#### **PART 3 – EXECUTION**

Not Used.

#### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

## PROJECT RECORD DOCUMENTS

### Section: 01 78 39

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#### **PART 1 – GENERAL**

##### 1.1 CLOSEOUT SUBMITTALS

- A. At Contract closeout, the Contractor shall deliver the Record Documents to the Owner's Authorized Representative (OAR). 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 Project.
- B. Record Document Finish Manual: This manual is required for all items requiring submittal for color, texture or finish selection. The 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 the Contractor's Authorized Representative (CAR).

#### **PART 2 - PRODUCTS**

##### 2.1 MARKING DEVICES

Provide felt-tip marking pens for recording information in the color code designated by the OAR at the Pre-Construction Conference.

##### 2.2 DRAFTING SERVICES

Retain competent drafting services, as necessary, for transfer of "mark up notations" from information recorded during construction.

#### **PART 3 - EXECUTION**

##### 3.1 RECORD DOCUMENTS

The Contractor shall maintain at the Project site one marked-up record copy of:

- A. Plans.
- B. Specifications.
- C. Addenda.
- D. Change Orders and other modifications to the Contract.
- E. OAR Written Instructions.
- F. Approved shop drawings, product data and samples.
- G. Field Test Records, to include Commissioning Plan and Test Results and Final Report.
- H. 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.

## PROJECT RECORD DOCUMENTS

### Section: 01 78 39

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2. Provide secure storage space for storage of samples.
- B. File documents and samples in accordance with the direction of the OAR.
- 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 OAR.
- E. Incomplete or out of order documents and samples will be grounds for not approving application for payment.

### 3.3 RECORDING

- A. Label each document "PROJECT RECORD", in neat large printed letters.
- B. Record information concurrently with the Project 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 the original Plans.
  7. Revisions to details shown on the Plans.
  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. Not used.
- E. Permanent Record Drawings (As-Built Drawings).
  1. The Contractor shall submit one (1) complete draft record set to the OAR for review in accordance with Special Provision 12.0. After the draft record approval, the Contractor shall submit a final record set of As-Built Drawings in electronic format as prescribed by the Airport CADD Standards Manual (CADD Manual) and this Section in AutoCAD.
  2. The Contractor shall submit a complete, organized set of AutoCAD .DWG files including individual sheet files, border files, base files, reference files, and any other type of file used to create each of the final .pdf sheet files. The files shall be organized in the standard organized folder structure that was used to create the .pdf sheet file from the individual sheet file. Each sheet file shall be saved

## PROJECT RECORD DOCUMENTS

### Section: 01 78 39

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with the border file and all base or reference files attached and functioning upon opening the individual sheet file.

3. Refer to Special Provision 12.0 for additional requirements including the Contractor's endorsement of each sheet for the final submission of the Permanent Record Drawings.
  4. The Contractor shall submit one (1) copy of all Permanent Record Drawings files to the OAR on DVDs.
  5. Converted As-Built Drawings require the appropriate certifications, endorsements, professional seals, and signatures.
  6. Sheets shall be provided in "½ size" sheets – (equivalent to 17" x 22").
  7. Drawings may be bond copy affixed with appropriate certifications, endorsements, professional seals and signatures.
  8. The As-Built set shall be arranged according to the Contract Plans sheet numbering 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 incorporated into the Contract by Field Order or by Change Order or Request for Information (RFI).

#### 3.4 BURDEN OF ACCURACY

Reference General Provisions for requirements.

#### 3.5 RECORDING

- A. Post changes and modifications to the Contract Documents as they occur. The OAR will periodically review record documents to assure compliance.
- B. The Contractor shall bring the current set of As-Built Drawings to the first weekly meeting of the month for the OAR review.

## PART 4 - MEASUREMENT AND PAYMENT

Not Used.

– END OF SECTION –

# EXTRA STOCK MATERIALS

Section: 01 78 46

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## PART 1 – GENERAL

### 1.1 SUMMARY

This Section includes administrative and procedural requirements required of the Contractor for stocking of extra materials for the Project.

### 1.2 PRODUCTS REQUIRED

- A. Provide the quantities of extra materials to the Owner specified in the individual Sections in addition to the quantities required for completion of the Work.
- B. Provide products to be identical to those installed in Work. Include all the quantities required for the Project in the original purchase from the supplier or manufacturer to avoid variations in manufacture.
- C. Provide a complete list, including Section or Plans references, of all extra materials to be provided under this Contract within 90 Calendar Days of the Notice of Proceed (NTP). Submit list to the Owner's Authorized Representative (OAR) in both hardcopy and an electronic file in Microsoft Excel.

### 1.3 STORAGE AND MAINTENANCE

- A. Temporarily store extra materials with products to be installed in the Work, in accordance with Section 01 66 00 or in other location acceptable to OAR.
- B. When adequate secure storage facilities are available at the Project site capable of maintaining conditions required for storage of materials to be installed in the Work, the extra materials may be stored in available space.
- C. Maintain extra materials in the manufacturer's unopened original containers with labels intact and legible, until delivery to the OAR.

### 1.4 DELIVERY

- A. Coordinate final delivery of extra materials with the OAR prior to Substantial Completion.
- B. Deliver, unload, store, and account for specified quantities of extra materials in presence of the OAR.
- C. The OAR will indicate final placement in building of extra materials.
- D. Obtain written acceptance from the OAR of receipt of specified quantities of extra materials.
- E. For portions of Work accepted and occupied by Owner prior to Substantial Completion, the Contractor shall deliver proportional quantity of spare parts and maintenance materials if requested by the OAR. Record quantities delivered with the OAR.

## PART 2 – PRODUCTS

Not Used.

## PART 3 – EXECUTION

Not Used.

**EXTRA STOCK MATERIALS**

**Section: 01 78 46**

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**PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**



## **DEMONSTRATION AND TRAINING**

### **Section: 01 79 00**

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#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

This Section includes the demonstration and training requirements required of the Contractor on the Project.

- A. The Contractor shall instruct and demonstrate the operation of each selected system to the Owner's Authorized Representative (OAR) and other Owner's maintenance and operations personnel.
- B. Amount of time to be devoted to the instructional sessions shall be reasonable and consistent with size and complexity of equipment as determined by the OAR.

##### **1.2 SUBMITTALS**

- A. The Contractor shall submit a proposed outline and syllabus for each instruction session to the OAR for approval, a maximum of twenty (20) Calendar Days and no less than ten (10) Calendar Days before scheduled date of instruction. Indicate the list of topics to be covered and identify training and visual aids, which will be used.
- B. The Contractor shall produce a professional quality video recording on a properly labeled DVD in MP4 format for each instruction session. The recordings shall be produced by experienced videographers. One (1) original draft copy of each video shall be submitted to the OAR for approval. Any recordings of unacceptable quality shall be recreated at Contractor's sole expense.
- C. Submit complete record of instructions as part of Operations and Maintenance (O&M) Data given to Owner. For each instructional period, supply following data:
  - 1. Date of Training
  - 2. Date of Submittal
  - 3. System or equipment involved
  - 4. Names of instructors and affiliation
  - 5. All participants present at the training.
- D. Upon approval of the OAR, the Contractor shall upload one (1) copy of each training video into the Skier Unifier software application into the designated folder, unless otherwise directed by the OAR, and submit two (2) DVD copies of all training videos to the OAR.

##### **1.3 QUALITY ASSURANCE**

The Contractor shall arrange for services of qualified manufacturer's representatives who are knowledgeable about the product to instruct the OAR and other Owner's personnel on proper maintenance, operation and calibration of equipment.

#### **PART 2 – PRODUCTS**

##### **2.1 INSTRUCTION PROGRAM**

- A. The Contractor shall furnish a minimum of five (5) draft O&M Manuals for the classroom instruction that shall be pertinent to the subject being covered and the approved syllabus.
- B. The O&M Manual(s) shall constitute the basis of instruction. Review contents of the manual with the Owner's personnel in full detail to explain all aspects of operations

## **DEMONSTRATION AND TRAINING**

### **Section: 01 79 00**

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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.

Prepare and insert additional data sheets as required in the O&M Manual(s) when it becomes apparent during instruction that it is needed as directed by the OAR.

### **PART 3 – EXECUTION**

#### **3.1 INSTRUCTION TO OWNER’S PERSONNEL**

Prior to the date of Project Substantial Completion, the Contractor shall instruct the OAR and other Owner’s designated operating and maintenance personnel in operation, adjustment and maintenance of products, equipment, and systems at agreed schedule. For equipment requiring seasonal operation, perform training at the agreed schedule.

### **PART 4 - MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART – 1 GENERAL****1.1 SUMMARY**

This Section includes general requirements and procedures for compliance with Airport Green Building Standards (GBS) prerequisites and credits needed for the Project to comply with Airport 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/Engineer's design and other aspects of the Project that are not part of the Work of the Contract.
3. The GBS Project Checklist is included in Section 3 of the GBS.

**1.2 DEFINITIONS**

- A. 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.
- B. 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.
- C. 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.

**1.3 SUBMITTALS**

The Contractor shall provide the following:

- A. Submit any additional GBS submittal requirements included in other Sections.
- B. GBS submittals are in addition to other submittals. If the submitted item is identical to that submitted to comply with other requirements, submit duplicate copies as a separate submittal to verify compliance with indicated the GBS and Airport Sustainability Report requirements.
- C. Sustainability Action Plans: Provide preliminary submittals within fourteen (14) Calendar Days of the Notice to Proceed (NTP) indicating how the following requirements will be met:
  1. Materials and Resource (MR) Credit MR 1.1, 1.2, and 1.3: Building Reuse - Maintain Existing Walls, Floors, and Roof.

## SUSTAINABLE DESIGN REQUIREMENTS

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2. MR Credit 1.4: Building Reuse - Maintain 50% of Interior Non-Structural Partitions
  3. MR Credit 2.1 and 2.2: Construction Waste Management - Waste management plan complying with Section 01 74 19.
  4. MR Credit 4.1 and 4.2: Recycled Content - List of proposed materials with recycled content.  
Indicate the cost, post-consumer recycled content, and pre-consumer recycled content for each product having recycled content.
  5. MR Credit 5.1 and 5.2: Regional Materials - Provide a list of all 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. Indoor Environmental Quality Credit 3.1 and 3.2: Construction Indoor Air Quality (IAQ) Management Plan – During Construction and Before Occupancy - Provide a construction IAQ management plan.
- D. Sustainable Progress Reports: The reports shall be concurrent with each Payment Application. Submit reports comparing actual construction and purchasing activities with sustainability action plans for the following:
1. MR Credit 1.1, 1.2, and 1.3: Building Reuse - Maintain Existing Walls, Floors, and Roof.
  2. MR Credit 1.4: Building Reuse - Maintain 50% of Interior Non-Structural Partitions
  3. MR Credit 2.1 and 2.2: Construction Waste Management - Waste reduction progress reports shall be included along with the Waste Management Report (WMR) described in Section 01 74 19.
  4. MR Credit 4.1 and 4.2: Recycled Content.
  5. MR Credit 5.1 and 5.2: Regional Materials - Regionally manufactured materials and regionally extracted, harvested, or recovered materials.
- E. Sustainability Documentation Submittals:
1. Sustainable Sites (SS) Credit 8: Light Pollution Reduction – Submit the product data for interior and exterior lighting fixtures that stop direct-beam illumination from leaving the building site.
  2. Water Efficiency (WE) Credit 3.1 and 3.2: Water Use Reduction – Submit the product data for plumbing fixtures indicating water consumption.
  3. Energy and Atmosphere (EA) Prerequisite 3.0: Fundamental Commissioning of Building Energy Systems – Submit the product data for new HVAC equipment indicating absence of CFC refrigerants.
  4. EA Credit 4.0: Enhanced Refrigerant Management – Submit the product data for new HVAC equipment indicating absence of hydrochlorofluorocarbon

## SUSTAINABLE DESIGN REQUIREMENTS

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- (HCFC) refrigerants, and for clean-agent fire-extinguishing systems indicating absence of HCFC and Halon.
5. MR Credit 2.1 and 2.2: Construction Waste Management - Comply with the requirements of Section 01 74 19.
  6. MR Credit 4.1 and 4.2: Recycled Content – Submit the 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. MR Credit 5.1 and 5.2: Regional Materials – Submit the product data indicating location of material manufacturer for regionally manufactured materials.
    - a. Include statement indicating cost and distance from manufacturer to the 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. EQ Credit 1.0: Outdoor Air Delivery Monitoring – Submit the product data and shop drawings for carbon dioxide monitoring system.
  9. EQ Credit 3.1: Construction IAQ Management Plan
    - a. Submit a Construction IAQ Management Plan.
    - b. Submit the product data for temporary filtration media and filtration media used during occupancy.
    - c. Construction Documentation: Six photographs at three (3) different occasions during construction along with a brief description of the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA) approach employed, documenting implementation of the IAQ management measures, such as protection of ducts and on-site stored or installed absorptive materials.
  10. EQ Credit 3.2: Construction IAQ Management–Before Occupancy
    - 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. Submit the 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. EQ Credit 4.1: Low-Emitting Materials-Adhesives and Sealants – Submit the product data for adhesives and sealants used on the interior of the building indicating the volatile organic compound (VOC) content of each product used. Indicate the VOC content in gallons per liter calculated according to 40 CFR 59, Subpart D (EPA method 24).
  12. EQ Credit 4.2: Low-Emitting Materials–Paints and Coatings – Submit the product data for paints and coatings used on the interior of the building

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indicating chemical composition and VOC content of each product used. Indicate the VOC content in g/L calculated according to 40 CFR 59, Subpart D (EPA method 24).

13. EQ Credit 4.3: Low-Emitting Materials—Flooring Systems – Submit the product data for carpet products indicating the VOC content of each product used.
14. EQ Credit 7.1: Thermal Comfort—Design – Submit the 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. MR Credit 4.1: Recycled Content - 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.
- B. MR Credits 4.1 and 4.2: Recycled Content - 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.
  4. Recycled content of materials shall be defined according to the Federal Trade Commission's "Guide for the Use of Environmental Marketing Claims," 16 CFR 260.7 (e).

### 2.2 REGIONAL MATERIALS

- A. MR Credit 5.1: Regional Materials - Provide minimum 20 percent of building materials (by cost) that are regionally manufactured materials.
- B. MR Credit 5.2: Regional Materials – Provide regionally manufactured materials as required by subparagraph "MR Credit 5.1" above, provide at least 50 percent (by cost) that are regionally extracted, harvested, or recovered materials.

### 2.3 LOW-EMITTING MATERIALS

- A. EQ Credit 4.1: Low-Emitting Materials-Adhesives and Sealants - For interior applications use adhesives and sealants that comply with the following limits for the VOC content when calculated according to 40 CFR 59, Subpart D (EPA method 24):
  1. Wood Glues: 30 g/L.

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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. EQ Credit 4.2: Low Emitting Materials-Paints and Coatings - For interior applications use paints and coatings that comply with the following limits for the 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).

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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

MR Credit 2.1 and 2.2: Construction Waste Management – Perform activities in compliance with Section 01 74 19.

### 3.2 CONSTRUCTION INDOOR AIR QUALITY MANAGEMENT

- A. EQ Credit 3.1: Construction IAQ management Plans-During Construction – Perform construction activities in compliance with SMACNA IAQ Guideline for Occupied Buildings under Construction.



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1. If the 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 Minimum Efficiency Reporting Value (MERV) of 8 according to ASHRAE 52.2 at each return-air inlet for the air-handling system used during construction.
  2. Replace all air filters immediately prior to occupancy. Replacement air filters shall have a MERV 13 according to ASHRAE 52.2.
- B. EQ Credit 3.2: Construction IAQ Management-Before Occupancy
- Engage an independent testing and inspecting agency to conduct a baseline indoor air quality testing program according to the EPA Protocol for Environmental Requirements, Baseline IAQ and Materials.

### **PART 4 – MEASUREMENT AND PAYMENT**

Not Used.

**- END OF SECTION -**

**PART 1 – GENERAL**

1.1. SUMMARY

This Section includes the requirements for Commissioning the Project including:

- A. Start up and testing of equipment and systems.
- B. Identification and documentation of all infrastructure, systems, and equipment (Systems) issues and failures.
- C. Corrective Actions and acceptance of corrected Systems.
- D. Coordination of Commissioning requirements.

1.2 DESCRIPTION

A. Purpose

To obtain an approved Commissioning Plan and final Commissioning Report accepted by the Airport Commissioning Authority as required by Airport Board Policy (ABP).

B. Design and Construction Phase Commissioning Goal

Issuance of a Commissioning Plan to reflect the design intent of the final system configurations and operations necessary to obtain a permit for construction.

C. Post-Construction Phase Commissioning Goal

Issuance of an approved final Commissioning Report to reflect all Systems commissioned have been installed, operated, and tested to meet the construction specification requirements and have met the minimum operational and training requirements of the Owner as necessary for the Owner acceptance and issuance of a Certificate of Occupancy (CO).

D. Systems to be commissioned will be listed in detail in the Specifications listed below, and in PART 3 of this Section, when applicable with the Project's Scope of Work:

- 1. Division 11 – Equipment
- 2. Division 13 – Special Construction
- 3. Division 14 – Conveying Equipment
- 4. Division 21 – Fire Suppression
- 5. Division 22 - Plumbing
- 6. Division 23 – Heating, Ventilation, and Air Conditioning (HVAC)
- 7. Division 25 – Integrated Automation
- 8. Division 26 – Electrical
- 9. Division 27 – Communications
- 10. Division 32 – Exterior Improvements
- 11. Division 33 – Utilities
- 12. Division 34 – Transportation

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#### 1.3 DEFINITIONS

- A. **Basis of Design:** The Basis of Design (BOD) is a document that details the Architect/Engineer's design plan to achieve the Owner's Project Requirements (OPR). This document includes assumptions, existing conditions, and performance boundaries.
- B. **Commissioning:** A systematic process of verifying and documenting that the performance and maintainability of Systems fulfill the operational and functional requirements of the Owner and the Owner's representatives, users, and operators. Commissioning is intended to achieve the following specific objectives according to the Contract Documents.
1. Verify that all applicable Systems are installed according to the Contract, manufacturer's recommendations, and to industry accepted minimum standards and that they receive adequate operational checkout by the Installing Subcontractor(s).
  2. Verify and document proper performance of all Systems.
  3. Verify that all Operations and Maintenance (O&M) documentation is complete.
  4. Verify that the Owner's operating personnel are adequately trained.
- C. **Commissioning Agent (CxAg):** The person selected to chair the Commissioning Team and coordinates and oversees the development and execution of the Commissioning Plan. The CxAg will be a selected and employed by the Owner. The CxAg will be a licensed professional engineer in the State and experienced in the Commissioning of mechanical and electrical systems of the type and complexity installed in this Project. The CxAg will have experience in construction process, direct digital control systems, and test adjust and balance operations. The CxAg shall not be associated with or employed by the Contractor or any Subcontractor or equipment/system supplier connected with the Project.
- D. **Commissioning Coordinator:** An authorized representative of the Owner, Contractor, Installing Subcontractor(s) or other members of the Commissioning Team who are designated in writing to the Commissioning Team, who attend Commissioning meetings and who act as the responsible central point of contact between their companies and the Commissioning Team.
- E. **Commissioning Authority (CxAu) or Designee (CxAuD).** DFW Airport Board manager responsible for ensuring compliance with the DFW Airport Board Commissioning Policy and approving proponents for commissioning, the project commissioning plan, and the Final Commissioning Report.
- F. **Commissioning Plan:** The plan prepared by the CxAg providing 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 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 plan. As a living document, the plan will be continuously updated to reflect the evolving process as developed by the Commissioning Team. The Final Commissioning Plan is inclusive of the completed initial approved Commissioning Plan plus all approved and completed

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- commissionable items associated with construction phase changes as provided for in the following:
1. Requests For Information
  2. Design Change Notices
  3. Approved Addenda or Alternatives
  4. Approved final submittals, including control systems sequences of operation.
- G. Commissioning Team: The group responsible for working together to implement the Commissioning process. The group can consist of all or part of the following members as dictated by the complexity and length of a Project:
1. Commissioning Authority (CxAu)
  2. Senior Commissioning Manager (Sr. CxM)
  3. Senior or Implementation Project Manager
  4. Project Manager
  5. Commissioning Manager (CxM)
  6. Commissioning Agent (CxAg)
  7. Architect/Engineer
  8. Construction Manager at Risk (CMAR)
  9. Contractor Commissioning Coordinator
  10. Contractor
  11. Controls Subcontractor (CC)
  12. Electrical Subcontractor (EC)
  13. Mechanical Subcontractor (MC)
  14. Fire Protection Subcontractor (FPC)
  15. Owner's Authorized Representative (OAR)
  16. Owner's Authorized Facility Manager
  17. Owner's Authorized Central Utility Plant (CUP) Manager
  18. Quality Assurance (QA) Inspectors
  19. Design Code and Construction Department (DCC) Inspector
  20. Design Code and Construction Department (DCC) Representative
  21. Information Technology Systems (ITS) Representative
  22. Department of Public Safety (DPS) Representative
  23. Energy, Transportation and Asset Management (ETAM) Representative
  24. Environmental Affairs Department (EAD) Representative
  25. Testing, Adjusting and Balancing (TAB) Subcontractor
  26. Other Installing Subcontractors or equipment suppliers.
- G. Contractors Test Report: The Contractors' tests are defined as any form of start-up, adjustment, or calibration performed on individual pieces of equipment as specified

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- within the Contract Documents. The CxAg will provide a test report form to be used by the Installing Subcontractor as a cover sheet to the actual test results, for the documentation of each specified contractor's test. The Contractor is responsible to upload the digital documents to the Owner's designated electronic project management system, the Skier Unifier software application, or as otherwise directed by the OAR for the Project.
- H. Deficiency: An issue or observation that prohibits the successful passing of any step on the verification test procedure for any Systems that are specified in the Commissioning scope of the Project.
  - I. Issue: An observable item reported as a possible risk or concern to the Project.
  - J. Installing Subcontractor: The Subcontractor or supplier responsible for the actual installation of the System.
  - K. Owners Project Requirements (OPR): A written document detailing the functional requirements of the Project and the expectations of how it will be used and operated by the Owner. The 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.
  - L. Pre-Functional Checklist (PFC)/System Readiness Checklist (SRC): A checklist created by the CxAg designed to demonstrate that the system is completely installed and ready for operational testing. At the end of installation, the Installing Subcontractor completes the operational checklist to certify that the work is complete and the system is ready for independent testing.
  - M. Functional Performance Test (FPT): A test that confirms each system will perform as specified functionally. The Installing Subcontractor shall perform each FPT. The CxAg will coordinate, witness, and document the FPT. During the FPT, the Installing Subcontractor shall sequence the system as outlined in the approved FPT procedure and provide the required test equipment and building automation system access as required.

#### 1.4 COMMISSIONING AIRPORT BOARD POLICY and COMMISSIONING PLAN

- A. Under Airport Board Policy ET.001 – Commissioning, it is the policy of the Board that all Board buildings and other appropriate facilities and Systems be commissioned. The policy provides the requirements for commissioning acceptance by the Airport's Commissioning Authority and the Commissioning Authority Designees.
- B. The Commissioning Plan provides guidance in the execution of the Commissioning process based on the Project Scope of Work.
- C. Commissioning Process

The following provides a brief overview of typical Commissioning tasks during construction and the general order in which they should occur on the Project.

1. Commissioning during construction begins with a scoping meeting conducted by the CxAg 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 including Architect/Engineer approved submittals are provided to the CxAg including detailed start-up procedures.

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4. The CxAg works with the Commissioning Team in developing start-up documentation formats, including PFCs to be completed during the start-up process.
5. The checkout and performance verification proceeds from simple to complex, from component level to Systems and intersystem levels with PFCs being completed prior to functional testing.
6. The Installing Subcontractor(s), under his own direction, execute and document the PFCs and perform start-up and initial checkout. The Contractor documents that the PFCs and start-up were completed according to the approved plans. The Installing Subcontractor(s) will provide a minimum three (3) Working Days, notification to the CxAg, OAR, and other 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 CxAg, in cooperation with the Installing Subcontractor(s), suppliers, and manufacturers develops specific equipment and system FPT procedures for all designated divisions and any other Systems identified as requiring Commissioning as part of the Project.
8. All other Divisions shall have the Contractor and the Installing Subcontractor(s), in cooperation with the suppliers and manufacturers; develop specific equipment and system FPT procedures to be submitted for Architect/Engineer approval and in accordance with the Project Specifications for use by the Commissioning Team for review, comment, and report form development. The FPT procedures are executed by the Installing Subcontractor(s), witnessed and documented by the CxAg after completion of the Installing Subcontractor(s) start-up procedures.
9. Items or issues associated with non-compliance in material, installation, setup, or sequence of operation are corrected at the Contractor's expense and the system retested.
10. The Contractor reviews the O&M documentation for completeness and schedules and coordinates the Owner's personnel training. All O&M documentation must be submitted in accordance with Section 01 78 23 and approved prior to the start of training. Refer to Section 01 79 00 for additional requirements.
11. The Contractor reviews and coordinates the training provided by the Installing Subcontractor(s), suppliers, manufacturers, the CxAg documents and verifies that the training was conducted and met the minimum requirements of the Owner. Refer to Section 01 79 00 for demonstration and training requirements.
12. Deferred testing is conducted, as specified for standard testing.
13. Final Commissioning Plan shall be completed and documented prior to Substantial Completion.
14. A Commissioning summary log is required in the Commissioning Plan and report to identify all Systems designated to have warranties and their warranty duration. Refer to Section 01 78 33 for acceptance procedures for generic and final warranty manual submissions.

#### 1.5 RESPONSIBILITIES

- A. The Contractor shall:

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1. Develop and provide a complete list of Systems to be commissioned and of Systems requiring Owner personnel training for inclusion into the Commissioning Plan.
  2. Facilitate the coordination of the Commissioning work and ensure that Commissioning activities are being scheduled into the master schedule.
  3. Include the cost of Commissioning in the Contract Amount.
  4. Furnish a copy of all Contract Documents, Addenda, Requests for Information (RFI), Change Orders, and approved submittals and Shop Drawings related to commissioned Systems to the CxAg.
  5. Ensure each purchase order or subcontract written, includes requirements for submittal data, O&M data, Commissioning tasks and training.
  6. Assist with the development and documentation of Commissioning test procedures for all Systems with the Installing Subcontractor(s).
  7. Ensure that all Installing Subcontractor(s) execute their Commissioning responsibilities according to the Commissioning Plan, Contract Documents, and schedule.
  8. Designate a Commissioning Coordinator who shall attend Commissioning scoping meetings and other necessary meetings scheduled by the CxAg to facilitate the Commissioning process.
  9. Coordinate the training of the Owner's personnel, including reviewing and approving the training plans and coordinate the digital recordings of the Owner's personnel training including clear audio recording of all questions and inquiries and their associated responses, in accordance with Section 01 79 00.
- B. The Contractor shall ensure that all Installing Subcontractor(s):
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(s) submittal to the Contractor and CxAg for development of start-up and FPT procedures.
    - a. Provide the following to the Contractor and CxAg:
      - 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.

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- 6) Installation, start-up and checkout materials that are shipped with the equipment.
- 7) Actual field checkout sheet forms to be used by the factory or field technicians.
- b. Provide the proposed O&M Manual(s) format, organization, and content to the CxAg for review and comment. The manual shall follow the guidelines in accordance with Section 01 78 23.
- c. Provide additional documentation, deemed necessary by the CxAg, for the Commissioning process.
6. Prepare and provide a copy of the O&M Manual(s) and submittals of the commissioned Systems using normal submittal procedures through the Contractor to the CxAg for review and comment.
7. Assist in clarifying the operation and control of commissioned Systems in areas where the Project Specifications, control drawings, or equipment documentation are insufficient for writing detailed testing procedures. Coordinate efforts with the Architect/Engineer as required.
8. Coordinate with the CxAg and provide the specific FPT procedures to ensure feasibility, safety, equipment protection, and provide necessary written alarm limits to be used during the tests to the CxAg through the Contractor.
9. Develop a full start-up and initial checkout plan using the manufacturer's start-up procedures and the PFCs for all commissioned Systems. Submit through the Contractor to the CxAg for review and comment prior to start-up.
10. Execute the SRCs for all commissioned Systems 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 the CxAg.
12. Address and resolve current Punch List items prior to beginning FPTs.
13. Provide skilled technicians to execute starting of equipment and to execute the FPT. 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 FPTs for specified Systems. Assist the CxAg in interpreting the monitoring data, as necessary.
15. Correct all deficiencies which include differences between specified and observed performance as interpreted by the Contractor and/or CxAg and the Architect/Engineer and retest the equipment.
16. Prepare the O&M Manual(s) according to the Contract Documents, including clarifying and updating the original sequences of operation to as-built conditions.
17. Prepare redline and CAD (electronic) drawings for all final as-built drawings for Contractor-generated coordination drawings.
18. Provide training of the Owner's operating personnel as required in the Commissioning Plan. Refer to Section 01 79 00 for demonstration and training requirements.



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19. Coordinate with equipment manufacturers to determine specific requirements to maintain the validity of the warranty. Develop, execute and document Contractor maintenance plans for Systems placed into service prior to beneficial occupancy. Provide records and reports of all pre-turnover maintenance.
  20. Provide the equipment for testing in accordance with the Project Specifications.
- 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 all applicable warranties in force.
  2. Include all special tools, including software and instruments only available from the supplier and specific to a piece of equipment, required for testing equipment according to these Contract Documents in the base bid price provided to the Contractor. This bid price does not include stand-alone data logging equipment that may be used by the CxAg.
  3. Provide information requested by the CxAg regarding Systems sequence of operation and testing procedures.
  4. Review test procedures for Systems installed by factory representatives.
- D. Architect/Engineer
1. Designate a Commissioning Coordinator who shall attend the Commissioning scoping meeting and other necessary meetings scheduled by the CxAg to facilitate the Commissioning process.
  2. Provide the Basis of Design (BOD) documentation to the Contractor for inclusion in the O&M Manual(s).
  3. Review SRCs for Systems to be commissioned.
  4. Assist in clarifying the operation and control of commissioned Systems in areas where Project Specifications, control drawings, or equipment documentation are insufficient for writing detailed testing procedures.
  5. Review O&M Manual(s) according to the Contract Documents.
  6. Provide technical assistance for resolution of non-conformances or deficiencies as appropriate.
- E. Commissioning Agent (CxAg)
- The primary role of the CxAg is to coordinate the development and execution of the Commissioning Plan, and to observe and document performance of commissioned Systems, in particular, whether Systems are functioning in accordance with the documents design intent and in accordance with the Contract Documents. The CxAg is not responsible for design concept, design criteria, compliance with codes, design or general construction scheduling, cost estimating, or construction management. The CxAg may assist with problem solving non-conformances or deficiencies, but ultimate responsibility for such corrections are the responsibility of the Contractor, Installing Subcontractor(s), manufacturer, and/or Architect/Engineer, as appropriate.
- The CxAg will:
1. Coordinate the development of and maintains the Commissioning Plan.

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2. Coordinate the 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.
5. Plan and conduct a Commissioning scope and coordination meetings.
6. Request and review information required to perform Commissioning tasks, including O&M materials, Contractor start-up and checkout procedures.
7. Prior to start-up operations, gather and review the current control sequences and interlocks and work with the Installing Subcontractor(s) and the Architect/Engineer until sufficient clarity has been obtained, in writing, to be able to assure detailed testing procedures are written.
8. Review the submittals of the Contractor and Installing Subcontractor(s) applicable to Systems being commissioned for compliance with Commissioning requirements, along with normal construction submittals.
9. Create, review, approve, and distribute preliminary pre-functional tests and PFCs.
10. Review and approve the start-up and initial checkout plan for Systems as developed by the Installing Subcontractor.
11. Perform site visits, to observe component and system installations. Attend selected planning and Project construction meetings to obtain information on construction progress. Review Project construction meeting minutes for revisions/substitutions relating to the Commissioning process. Assist in resolving any discrepancies.
12. Approve pre-functional tests and PFC completion by reviewing the PFC and by selected site observation and spot-checking.
13. Approve Systems startup by reviewing start-up reports and by selected site observation.
14. Analyze any FPT data as well as trend logs and monitoring data to verify performance.
15. Coordinate, witness, and approve manual FPTs performed by the Installing Subcontractor(s). Coordinate re-testing as necessary until satisfactory performance is achieved.
16. Review equipment warranties to ensure that the Owner's responsibilities are clearly defined and provide a listing of warranties indicating equipment and duration of warranty.
17. Witness and document the training of the Owner's operating personnel. Provide a sign in sheet for each session and conduct survey after each session.
18. Compile and maintain a Commissioning issues record log. Acceptance of the Commissioning process is dependent on the resolution of all Commissioning issue log items.

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19. Review and approve the preparation of the Systems O&M Manual(s) in accordance with Section 01 78 23. Compile and provide listing of equipment for the O&M Manual(s).
20. Provide a final Commissioning Report including suggestions for improvement in the process.
21. Provide benefit and value matrix and identify the Commissioning value matrix in final Commissioning Report.
22. Identify additional areas or Systems that should be included in the warranty manual information provided or in other areas under the Contract Documents.
23. Assist the Owner's personnel in developing reports, documents, and requests for services to remedy outstanding problems.

#### 1.6 SCHEDULING

The CxAg will work with the Commissioning Team to schedule the Commissioning activities. The CxAg will provide sufficient notice to the Commissioning Team for scheduling Commissioning activities. The Contractor shall integrate all Commissioning activities into the master schedule. All parties will address scheduling problems and provide the necessary notifications in a timely manner in order to expedite the Commissioning process.

#### 1.7 QUALITY ASSURANCE

The Contractor and each Subcontractor involved with Systems to be commissioned on the Project will assign a Commissioning Coordinator with at least five (5) 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. The Commissioning Coordinator(s) will be submitted for approval of the CxAg subject to satisfactory experience and performance. The Commissioning Coordinator(s) responsibilities shall include:

- A. Coordination meetings.
- B. Planning.
- C. Scheduling.
- D. Documentation.
- E. Maintain close communication and coordination with the CxAg.
- F. Development of testing procedures in coordination with the Installing Subcontractor(s).
- G. Submitting the Contractor's test report submittal to the CxAg.
- H. SRCs submittal.
- I. Perform system verification tests.
- J. Corrective Actions rectification and documentation.
- K. Specified training planning and coordination.

#### 1.8 QUALITY CONTROL

- A. Ensure that the Contractor and each Installing Subcontractor follows the established Contractor's Quality Control (QC) program and procedures.

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- B. Ensure that the Contractor and each Installing Subcontractor corrects all deficiencies and incorporate the necessary adjustments to O&M Manual(s) and as-built drawings for applicable issues identified in any seasonal testing.

#### 1.9 SUBMITTALS

- A. The CxAg will provide the Contractor with specific requests 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 personnel and added to the Contractor's submittal register. At a minimum, each 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 CxAg will be included in each Installing Subcontractor(s) contributions to the O&M Manual(s).
- C. The CxAg will review and approve submittals related to the commissioned Systems for conformance to the Contract Documents as it relates to the Commissioning process, to the functional performance of the Systems, and to adequacy for developing test procedures. This review is intended primarily to aid in the development of FPT procedures and only secondarily to verify compliance with the Systems specifications.
- D. The Contractor shall ensure that each Installing Subcontractor(s) designates a Commissioning Coordinator and provides information facilitating the incorporation and coding identification of Commissioning activities in the Construction Schedule within four (4) weeks of the Notice to Proceed (NTP).
- E. The Contractor shall submit a detailed verification testing schedule to the CxAg at least four (4) weeks prior to start of testing.
- F. The Contractor shall ensure that each Installing Subcontractor(s) submits test reports through the Contractor to the CxAg upon successful completion of each test.
- G. The Contractor shall ensure that each Installing Subcontractor(s) submits information for the O&M Manual(s) (format, content, and organization) through the Contractor to the Architect/Engineer and the CxAg for review within at least ninety (90) Calendar Days prior to the start of scheduled verification testing.

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- H. The Contractor and each Installing Subcontractor(s) shall submit the O&M Manual(s) in accordance with the individual Specification Sections requiring an O&M Manual(s) and Section 01 78 23.
- I. The supplier and Installing Subcontractor shall certify that the installed and operating Systems have been completed (with all deficiencies corrected) and that they are performing to in accordance with the Contract Documents including all tests and other requirements stipulated therein.

#### 1.10 TRAINING

- A. The Contractor shall coordinate O&M training activities through the Commissioning Plan.

The Contractor shall provide training plans for equipment software systems and major components as specified in individual Project Specifications a minimum of ninety (90) Calendar Days prior to beginning verification testing.

- B. The Training Plan shall include:
  - 1. Equipment or Systems 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.
  - 2. Visual inspection parameters including operating sound and noise warnings.
  - 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. The Contractor shall document performance of training session by completing the O&M training form provided by the OAR. 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.

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- E. The Contractor shall obtain written acceptance of training session from the CxAg on the O&M training form.
- F. The Contractor shall record all training sessions and submit for review and approval in accordance with Section 01 79 00 and submit the final documentation after incorporating all edits required by the review in accordance with Section 01 79 00 with a fully executed O&M training form.

## PART 2 – PRODUCTS

### 2.1 TEST EQUIPMENT

- A. The Contractor or Installing Subcontractor shall provide all standard testing equipment required to perform startup and initial checkout and the required FPT shall be provided by the Installing Contractor for the equipment being tested.
- B. The Contractor or Installing Subcontractor shall provide special equipment, software, tools, and instruments that are only available from the supplier and specific to a piece of testing equipment (test tools) required for adequate testing. The cost of such test tools shall be included in the base bid price to the Contractor and will become the property of the Owner when testing is complete.
- C. The Contractor or Installing Subcontractor shall repair any damage to these test tools and calibrate the tools so they are fully functional when turned over to the Owner and provide full documentation on the use, maintenance and calibration with these test tools.
- D. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Contract Documents.
- E. Calibration records for all testing equipment shall be provided to the CxAg through the Contractor.

## PART 3 – EXECUTION

### 3.1 MEETINGS

#### A. Scoping Meeting

Approximately 30-60 Calendar Days prior to start-up of construction or installation of the Systems to be commissioned, the CxAg will schedule, plan and conduct a Commissioning scoping meeting with the entire Commissioning Team in attendance. Multiple scoping meetings may be required due to multiple features of the Work as the construction progresses. The Contractor shall prepare and distribute meeting minutes to all parties. Information gathered from this meeting will allow the CxAg to revise the Commissioning Plan to its “final” version, which will also be distributed to all parties.

#### B. Miscellaneous Meetings

Additional meetings may be planned and conducted by the CxAg as construction progresses covering such topics as coordination, deficiency resolution, and planning issues with the respective Installing Subcontractor(s).

### 3.2 REPORTING

- A. The CxAg will provide regular updates and reports to the Commissioning Authority and OAR.

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- B. The CxAg will regularly communicate with all members of the Commissioning Team to apprise them of the Commissioning progress and scheduling changes through memos, progress reports, etc.
- C. The CxAg will prepare Non-Conformance Reports (NCRs) with the review and testing as described in this Section.
- D. A final Commissioning Report by the CxAg will be provided focusing on evaluating the Commissioning process issues and identifying areas where the process could be improved. All acquired documentation, logs, minutes, reports, NCRs, communications, findings, unresolved issues, etc., will be compiled in appendices and provided with the report. PFCs, FPTs, and monitoring reports will be part of the final Commissioning Report, but will be stored in the Commissioning Record in the O&M Manual(s).

### 3.3 SYSTEMS TO BE COMMISSIONED

- A. The Division 22 and 23 Installing Subcontractor(s) shall take the lead in Commissioning of the following mechanical Systems:
  - 1. Chiller water piping
  - 2. Heating water piping
  - 3. Variable frequency drives
  - 4. Air handling units
  - 5. Fan coil units
  - 6. VAV terminal units
  - 7. Fan powered terminal units
  - 8. General exhaust fans
  - 9. Plumbing systems
  - 10. HVAC test and balance
  - 11. Building management and control systems
- B. The Division 26 Installing Subcontractor(s) shall take the lead in Commissioning of the following electrical Systems:
  - 1. Lighting control system
  - 2. Electrical switchgear
  - 3. Automatic transfer switches
  - 4. Uninterrupted power systems
  - 5. Fault current analysis verification
  - 6. Grounding systems
  - 7. Lightning protection systems
  - 8. Emergency lighting
- C. The Installing Subcontractor and suppliers shall take the lead in Commissioning of the following Systems:
  - 1. Division 34 - Baggage Handling Systems.

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2. Division 14 or 34 - Vertical Transportation Systems.
- D. The Owner's representatives will take the lead in Commissioning of the following Systems:
  1. Division 14 or 34 – Passenger Boarding Bridges
  2. Division 21 - Fire suppression systems
  3. Division 27 - Access control and CCTV systems
  4. Division 27 - Communications and technology systems (Ethernet, fiber, phones, etc.)
  5. Division 28 - Fire alarm and voice evacuation system
  6. Division 28 - Public address system

#### 3.4 CONTRACTOR TESTS

- A. The Contractor shall ensure that each Installing Subcontractor and suppliers provide a list and schedule of specified Contractor tests to the CxAg.
- B. Unless specified otherwise, the Contractor shall provide a minimum of four (4) weeks notice to the CxAg prior to execution of specified Contractor's tests.
- C. The Contractor shall submit test reports to the CxAg and the Architect/Engineer within one (1) week of completion of each test.

#### 3.5 SUBSTANTIATING SYSTEM READINESS

The Contractor shall:

- A. Construct or install Systems and confirm readiness for testing prior to start of verification test procedures.
- B. Inform the CxAg in writing of the System readiness for verification testing at least four (4) weeks prior to the scheduled start of testing. Complete the SRCs and submit to CxAg.
- C. Perform and document instrumentation and digital controller calibration or provide documentation verifying manufacturer's performance of calibration prior to verification testing. The CxAg may observe calibration procedures.
- D. Not commence with any system verification testing until such System is documented ready for testing via submittal of the SRC to the CxAg.

#### 3.6 START-UP, PRE-FUNCTIONAL/SYSTEM READINESS CHECKLISTS AND INITIAL CHECKOUT

The following procedures apply to all equipment and systems to be commissioned as part of the Project.

- A. The Installing Subcontractor(s) responsible for startup of any System shall develop detailed start-up plans for all equipment which are a part of that System. Each piece of equipment will receive a full pre-functional checkout. The CxAg will assist in the development of detailed start-up plan to ensure that each of the manufacturer-recommended procedures has been completed. The parties responsible for the PFC and startup will be identified in the Commissioning scoping meeting and in the PFC. The party responsible for executing FPTs are identified in the testing requirements.



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1. The CxAg 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 shall determine which Installing Subcontractor is responsible for executing and documenting each of the line items tasks and shall note the responsible party on the form. Each form may have more than one party responsible for its execution.
3. The Contractor shall ensure that the Installing Subcontractor responsible for the purchase of the equipment develops the full start-up plan by combining or adding to the Architect/Engineer checklists with the manufacturer's detailed start-up and checkout procedures from the O&M Manual and the normal field checkout sheets.

The 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 may consist of:

- a. The PFCs.
  - b. The 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 normal field checkout sheets.
4. The Contractor shall ensure that the Installing Subcontractor submits the full start-up plan to the CxAg for review and approval.
  5. The CxAg 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.

#### B. Execution of PFCs and Start-up.

1. Two (2) weeks prior to start-up, the Contractor, the Installing Subcontractor(s) and suppliers will schedule start-up and checkout with the CxAg. The performance of the PFCs, startup, and checkout are directed and executed by the Installing Subcontractor or supplier with oversight by the Contractor. When checking off PFCs, signatures may be required of other Installing Subcontractors for verification of completion of work.
2. The CxAg shall observe the procedures for each piece of primary equipment, unless there are multiple units, whereby a statistical sampling strategy may be used as approved.
3. The CxAg may observe a sampling of the PFCs and start-up procedures for lower-level components of System equipment.
4. The Contractor, in conjunction with Installing Subcontractor(s), and suppliers shall execute start-up and provide the CxAg with a signed and dated copy of the completed start-up and pre-functional tests and PFCs.
5. Only individuals with direct knowledge and witnessed that a line item task on the PFC was actually performed shall initial or check that item off.

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- C. Deficiencies, Non-conformance and Approval in Checklists and Start-up.
  - 1. The Contractor shall ensure that the Installing Subcontractor clearly lists 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 shall be submitted to the CxAg within two (2) Working Days of the test completion.
  - 2. The Contractor and the CxAg shall review the report and submit either an NCR or an approval to the Installing Subcontractor. The Contractor and CxAg shall work with the Installing Subcontractor to correct test deficiencies or incomplete items. The Installing Subcontractor or suppliers shall correct all areas that are deficient or incomplete in the checklists and tests in a timely manner, and shall notify the CxAg as soon as outstanding items have been corrected and resubmit an updated start-up report and a Statement of Correction on the original NCR. When satisfactorily completed, the CxAg will recommend approval of the execution of the checklists and start-up of each system using a standard form.

- D. Pre-functional Test Form

After the initial Systems submittal phase, the CxAg shall prepare Pre-Functional Test forms for each item of Systems equipment as part of the Commissioning process. The Contractor shall review the respective Pre-Functional Test forms for accuracy, completeness, and provide comments to the CxAg.

### 3.7 VERIFICATION/FUNCTIONAL PERFORMANCE TESTS

- A. Objective

The objective of Functional Performance Tests (FPTs) and verification tests is to demonstrate that each System is operating according to the documented design intent and the requirements within the Contract Documents. Functional testing facilitates bringing the Systems from a state of Substantial Completion to full dynamic operation. Each System shall be operated through all modes of operation where there is a specified System response. The Contractor or Installing Subcontractor shall verify each sequence within the sequences of operation.

- B. FPTs and verification testing may be achieved by manual testing (persons manipulate the equipment and observe performance) or by monitoring the performance and analyzing the results. The CxAg 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 the Installing Subcontractor 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 the Installing Subcontractor shall return all affected Systems, due to these temporary modifications, to their pre-test condition.

- C. The Contractor and the Installing Subcontractor shall perform verification test procedures as outlined in the approved verification test plan.

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- D. The Installing Subcontractor shall provide input into the Contractor's master scheduling process with regards to timing and duration of verification test procedures.
- E. The CxAg will review and provide comment on final detailed verification test procedures. The Contractor and the Installing Subcontractor shall develop the verification test procedures from information incorporated in the System shop drawings and submittals.

The CxAg will provide feedback on the efficiency of the procedures and possible alternate approaches to achieving the same results.

#### 3.8 FUNCTIONAL PERFORMANCE TEST FORMS

- A. The Contractor and the Installing Subcontractor(s) shall provide personnel and equipment, to perform the FPT procedures. After the finalization of the Pre-Functional Test forms, the CxAg will prepare FPT forms for each System which is a part of the Commissioning process. The Contractor shall review the respective FPT forms for accuracy, completeness, and provide comments to the CxAg.
- B. Sample FPT forms are required with each Commissioning Plan submission for acceptance.

#### 3.9 CORRECTIVE ACTIONS

- A. The Contractor shall perform or ensure the Installing Subcontractor(s) or suppliers provide Corrective Actions for the resolution of deficiencies identified in the Commissioning Issue Log.
- B. The CxAg will document deficiencies discovered during the Commissioning process on an Issue Log within one (1) Working Day of discovery.
  - 1. Deficiency Identification Process:
    - a. Document date of identification.
    - b. Describe nature of deficiency.
    - c. Distribute original Issue Log to the Installing Contractor's Commissioning Coordinator.
    - d. Distribute copies to:
      - 1) Contractor
      - 2) Architect/Engineer
      - 3) Other contractors impacted by deficiency.
  - 2. The Contractor shall ensure the Installing Subcontractor performs the following:
    - a. Obtains the original form.
    - b. Records the date of direction.
    - c. Provides a description of Corrective Action required.
    - d. Records the name of person issuing the direction.
    - e. Determines the estimated date to complete the Corrective Action.
    - f. Distributes the original form to CxAg.
    - g. Distributes copies of the form to:

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- 1) Architect/Engineer
  - 2) Contractor
  - 3) Installing Subcontractor's Commissioning Coordinator
  - 4) Other contractors impacted by the deficiency
3. The Contractor shall ensure the Installing Subcontractor or supplier completes the following actions when Corrective Actions are completed by the Installing Subcontractor, supplier, and/or the Contractor:
- a. Obtains the original form.
  - b. Records date of correction.
  - c. Provides a description of final equipment status or Corrective Action performed.
  - d. Records the name of Installing Subcontractor that performed the work.
  - e. Submits the original form using normal submittal procedures through the Contractor to the CxAg.
  - f. Distributes copies of the form:
    - 1) Architect/Engineer
    - 2) Contractor's Commissioning Coordinator.
    - 3) Commissioning Coordinator for the Installing Subcontractor or the supplier
    - 4) Other contractors impacted by the deficiency.
4. The CxAg will perform a verification of the Corrective Action completion and record:
- a. Date of the retest.
  - b. Determined status - Resolved or Corrective Action required.
  - c. Name of person performing verification.
  - d. Distributes copies to:
    - 1) Architect/Engineer
    - 2) Installing Contractor's Commissioning Coordinator.
    - 3) Contractor.
    - 4) Other contractors impacted by deficiency.
- C. Cost of Retesting
- The cost for retesting a Pre-functional Test or PFT due to the action of, or a deficiency caused by, the Contractor or Installing Subcontractor shall be the sole responsibility of the Contractor. Any costs for retesting not due to the actions of, or a deficiency caused by, the Contractor or Installing Subcontractor, may be negotiated with the Owner in accordance with the Contract Documents.
- D. Failure Due to Manufacturer Defect
- If ten (10) percent or three (3) of any individual item (size alone does not constitute a difference), whichever is greater, fails to perform in accordance with the Contract

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Documents (mechanically or substantively) due to manufacturing defect, which in the sole determination of the OAR renders the item unable to meet its performance requirements, all identical units will be considered unacceptable. In such a case, the Contractor shall provide the OAR and CxAg with the following:

1. Within one (1) week of notification, the Installing Subcontractor or manufacturer's representative shall examine all other identical units and record 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 Subcontractor or manufacturer's representative shall provide a signed and dated, written explanation of the problem, cause of failure, and all proposed solutions including full equipment submittals of the original installation.
3. The OAR is solely responsible to determine whether a replacement of all identical units or a repair is acceptable.
4. Upon acceptance of a solution to the deficiency or non-conformance, the Contractor, Installing Subcontractor, and/or manufacturer's representative shall replace or repair all identical items and extend the warranty accordingly, if the original equipment warranty had begun, at no cost to the Owner. The replacement/repair work shall proceed with reasonable speed beginning within one (1) week from when parts can be obtained.

#### E. Approval

The CxAg notes each satisfactorily demonstrated FPT on the test form. The CxAg recommends acceptance of each test using a standard form. The OAR will provide any final approval on each test using the same form and will provide a signed copy to the CxAg and the Contractor.

### 3.10 SEASONAL COMMISSIONING AND OCCUPANCY VARIATIONS

- A. The Contractor shall provide a demonstration of the operation of the Commissioned Systems at approximately ten (10) months into the initial warranty period. The CxAg will witness the demonstration of the Systems and prepare an "Opposite Season" report as well as a "Lessons Learned" report for the Project if required by the Commissioning Plan.
- B. The intent of the ten (10) month demonstration will be to identify any operational concerns, document suggested solutions and review the long-term operational and re-commissioning requirements of the Systems.
- C. The Contractor shall use FPT forms to document performance.

### 3.11 OPERATION AND MAINTENANCE MANUALS

- A. The following O&M Manual requirements do not replace O&M Manual documentation requirements elsewhere in the respective Project Specification Sections.
- B. The Architect/Engineer shall compile and prepare design documentation for all Systems specified in each division of the Specification Sections and deliver this documentation to the Contractor for inclusion in the O&M Manual(s) prior to the training of Owner personnel.
- C. The CxAg shall receive a copy of the O&M Manual(s) for review.

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- D. Field checkout sheets and logs should be provided to the CxAg for inclusion in the Commissioning Record Book section of the O&M Manual(s).
- E. Review of the Commissioning related sections of the O&M Manual(s) shall be performed by the Architect/Engineer, the Contractor, and the CxAg.

#### **3.12 TRAINING OF OWNER PERSONNEL**

- A. The Contractor shall be responsible for training coordination, scheduling, and ultimately to ensure that training of the Owner's personnel is completed in accordance with the requirements of this Section.
- B. The CxAg shall be responsible for witnessing and approving the content and adequacy of the training of the Owner personnel for commissioned Systems.

#### **3.13 WRITTEN WORK PRODUCTS**

The Contractor's written work products shall consist of the start-up and initial checkout plan described and the completed start-up, initial checkout and PFCs, manufacturer's factory documentation and testing; field testing inspection forms, Contractor inspection forms, and O&M Manual(s) both in electronic and hard copy in accordance with this Section. These work products shall be submitted to the CxAg to be included in the final Commissioning Report as required.

### **PART 4 – FORMS**

The forms and documents to be used for the Commissioning processes shall be in accordance with the Building Commissioning Association (BCA), AABC Commissioning Group (ACG), National Environmental Balancing Bureau (NEBB), American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), or the University of Wisconsin or as otherwise provided or approved for the Project by the CxAg and the OAR.

- A. Provide pictures of equipment and issues identified in the field.
- B. Provide demonstration of trend logging performance of the building automation system.
- C. Maintain consistency throughout Commissioning Plan and final Commissioning Report for all approved forms.
- D. Provide digital hyperlinks for all Commissioning Report sections

### **PART 5 – MEASUREMENT AND PAYMENT**

Not Used.

**– END OF SECTION –**

## 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)
- C. Wildlife Hazard Management at Airports, A Manual for Airport Personnel available at:  
[http://www.faa.gov/airports/airportsafety/wildlife/problem/media/2005 FAA Manual complete.pdf](http://www.faa.gov/airports/airportsafety/wildlife/problem/media/2005_FAA_Manual_complete.pdf)
- 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 1<sup>st</sup> 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  $KNO_3$  (potassium nitrate) to help overcome dormancy.
4. All seed weight shall be per "Pure Live Seed" (PLS) weight calculated using  $Purity \times Germination \times Bulk Weight = PLS$  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) Hulled 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 *Cynadon dactylon* – 20 lbs. PLS
    - 2) Hulled Bermuda *Cynadon 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 *Cynadon dactylon* – 25 lbs. PLS
    - 2) Hulled Bermuda *Cynadon 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 1<sup>st</sup> 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 disking 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 15<sup>th</sup> 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 1<sup>st</sup> 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 treaded 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 1<sup>st</sup> to June 30<sup>th</sup> 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 1<sup>st</sup> 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 -**