

ITEM S-100**SPECIAL TECHNICAL PROVISIONS – SAFETY & SECURITY****DESCRIPTION**

100-1.1 Description. This shall consist of furnishing all labor, materials, equipment, and miscellaneous items, the performance of any work, project operations, or document preparation to comply with the safety and security requirements of the project and airport. The Contractor shall familiarize themselves, all employees and all subcontractors accessing the project work site with the safety and security requirements contained herein and throughout the project documents in order to ensure safety and security throughout the process of construction. The Construction Safety and Phasing Plan (CSPP) is specifically made a part of this Contract. Any deviation from the requirements established within this specification or the CSPP will be sufficient cause for Contract termination. Reference the project Construction Safety and Phasing Plan (CSPP) for details.

100-1.2 Safety Plan Compliance Document. At the time of the project award, prior to the issuance of the Notice to Proceed (NTP), the Contractor shall develop and submit a Safety Plan Compliance Document (SPCD).

This document shall outline the Contractor's work processes and methods utilized to meet the safety and security requirements outlined in the CSPP. The SPCD shall detail, but not be limited to, how the Contractor plans to maintain safety and security of both the Contractor's operations and the integrity of airport landside and airside operations during the prosecution of the contract work. The SPCD shall also detail the procedures to be followed in the event of an emergency or accident.

The SPCD must include a certified statement by the Contractor indicating its understanding of operations, safety, and security requirements outlined in the project plan set and CSPP. The statement shall assert that the Contractor understands these requirements and will not deviate from the approved CSPP and SPCD without prior written approval from the Airport.

The submitted SPCD shall be subject to the approval of the Owner and Project Manager and shall reflect any change as may be deemed necessary prior to approval and acceptance. The development of the required SPCD shall be considered incidental to S-100-6.9 *Project Safety & Security*

100-1.3 Contractor Representation. The Contractor shall appoint an on-site representative to serve as the Safety and Security Manager to ensure required safety and security protocols are followed and enforced for the duration of the contract. The Safety and Security Manager shall ensure that all personnel accessing the project site are familiar with the safety and security procedures as well as the regulations for operating at the airport.

The appointed individual(s) shall have the authority to represent the Contractor on safety and security compliance issues and authorized to make field decisions on the Contractor's behalf. The appointed individuals shall be especially knowledgeable regarding the requirements for operating in an active airfield environment at the airport and with the CSPP and SPCD. The appointed individual(s) shall be available 24-hours a day in the event of a project related construction safety or security emergency and for maintaining construction hazard lighting and barricades. The individual(s) shall be able and capable of responding within a reasonable amount of time from initial contact. These representatives shall be listed and position formalized in the SPCD.

CONTRACTOR ACCESS

100-2.1 Special Access Requirements. For any construction activity inside the security fence shown on the plans, special access requirements and procedures apply as detailed in the Special Conditions, SC-240 Airport Security Requirements. When a portion of the security fence must be removed to gain access or to perform the work, the Contractor must be able to continuously control the movement of

personnel into the Restricted Area, maintain Airfield Operations Area (AOA) fence line integrity at all times, and shall restore the security fence to a condition approved by the Owner before leaving the site.

The Contractor's access to the project site shall be as shown in the project plan set. No other points of access shall be allowed without prior approval from the Owner and Project Manager. Vehicle and pedestrian access routes and entry points onto the airfield must be controlled at all times to prevent inadvertent or unauthorized entry of persons, vehicles, or animals onto the AOA or deviation from the approved haul routes. The Airport will coordinate requirements for vehicle operations with the affected airport tenants, Contractor and the FAA air traffic manager. The Contractor shall maintain a list of Contractor and Subcontractor employees and vehicles authorized to access and operate on the project site.

All construction vehicles and personnel shall be restricted to the immediate work areas specified by the contract for this project. These areas include the haul routes into the work areas, the designated contractor staging and equipment storage areas, the soil disposal areas, and any pavement areas under construction. Use of alternate haul routes or staging areas by the contractor shall not be permitted without prior notification and approval by the Owner and the Program Manager.

100-2.2 Vehicle Operation. No privately-owned vehicles shall be allowed onto the AOA. Contractors shall park privately owned vehicles in the designated Contractor staging or parking areas.

The Contractor is required to sign and mark all equipment in conformance with FAA Advisory Circular 150/5210-5D, *Painting, Marking, and Lighting of Vehicles Used on an Airport*. At a minimum, the company logo or name as well as beacons or orange and white checkerboard flags are required on all contractor vehicles accessing the Airport AOA. Beacons are mandatory for each vehicle operating on the airfield during night-time hours. Checkerboard flags will not be permitted as a substitute for beacons on vehicles operating at night.

Beacons and flags must be maintained to standards and in good working and operational condition. Beacons must be located on the uppermost part of the vehicle structure, visible from any direction, and flash 75 +/- 15 flashes per minute. Flags shall be 3' by 3' with alternating 1' by 1' international orange and white squares and shall be replaced by the contractor if they become faded, discolored, or ragged as determined by Airport Operations or the Program Manager.

100-2.3 Vehicle & Pedestrian Access. The Contractor's access to the site shall be as indicated in the project plan set. No other points of access to the site or AOA shall be allowed without prior approval from the Program Manager. Vehicle and Pedestrian access routes and entry points onto the airfield must be controlled at all time to prevent inadvertent or unauthorized entry of people, vehicles, or animals onto the AOA or deviation from approved haul routes by the Contractor, their subconsultants, or material delivery drivers. The Program Manager and Airport shall coordinate vehicle operations with affected airport tenants, contractors, the FAA air traffic manager, and airport staff. The Contractor shall maintain a list of personnel accessing the secure areas of the airfield through their controlled access points and all personnel operating on the project site.

100-2.4 Material Deliveries. All material suppliers, subcontractors and visitors to the work site are obligated to follow the same safety and security operating procedures as the Contractor. All material suppliers shall make their deliveries using the same access points and routes as the Contractor and shall be advised of the appropriate delivery procedures at the time the materials order is placed. The Contractor shall not use the Airport address for any delivery but shall use the street address appropriate to the location of the entrance of the work site.

100-2.5 Plastic Safety Fence. A plastic fence, as detailed in the drawings, shall be furnished at the locations as indicated in the drawings and/or as directed by the Program Manager. Fence shall be fabricated of high-density polyethylene (HDPE) in a diamond link pattern, 4 feet tall, and OSHA orange in color. Fence shall have metal T-post except when within the glide slope and localizer critical areas where it shall have wood posts. All plastic fence, including posts, shall be removed from the project site at the project completion.

100-2.6 Guard House. The Contractor will be required to submit on, obtain approval on, provide and move or locate the guardhouse to those locations shown on the plans or as directed by the Program Manager for each temporary AOA fence line penetration. The Contractor will be responsible for bringing the guard house up to the standards specified in Specification SC-240, if needed and S-100

directed by the Program Manager. The Contractor shall maintain the guard house for the duration of the Contract, including repair of air conditioning, heating, lighting, removal of garbage, and cutting of grass around the guard house. The Contractor shall provide a portable toilet facility for the exclusive use of the gate guard. See SC-240 for additional requirements. Upon completion of work thus eliminating the need of Guard House(s), the Contractor shall remove Guard Houses from the site.

100-2.7 Crossing Gate Arm. Crossing gate arms shall be furnished by the Contractor and approved by the Program Manager prior to use. The gate arms will be used at the guard houses that will be stationed at each active taxiway crossing and at the AOA fence line. Two arms per one taxiway crossing are required. (One arm on each side of the taxiway crossing). Gate arms shall be Delta Scientific Corporation MG139, or approved equal. All gate crossing arms (contractor furnished) shall be removed from the project site at the project completion.

100-2.8 Traffic Control. All temporary modifications to public access roads or airport service roads and the signage associated with the construction haul road as shown in the plans including but not limited to removal and replacement of curb and gutter, installation of temporary pavement and base, removal of temporary pavement and base and restoration of median to its original or proposed new configuration upon project completion. Traffic control shall include but not be limited to the following devices shown in the plans: temporary signage, removal of pavement markings, temporary pavement markings, final pavement markings, drums with type 'C' warning lights, or other materials as indicated on the plans and/or as directed by the Program Manager to ensure safe exit and entry to the site. All traffic control devices and their installation shall meet the standard prescribed in the State of Tennessee Manual on Uniform Traffic Control Devices and shall comply with the most recent version of the State of Tennessee Standard Specifications for Road and Bridge Construction Section 712 Temporary Traffic Control.

CONSTRUCTION SEQUENCING AND COORDINATION

100-3.1 Construction Coordination. Pre-Construction conferences and Pre-work meetings shall be used to introduce airport operational safety and security elements specific to the project and individual work items throughout the duration of construction operations. In addition, construction progress meetings, scope and/or schedule changes, and meetings with the FAA Air Traffic Organization (ATO) will be coordinated as required through the performance of the contract.

Contact information for key construction, Airport, Project Manager and Engineer personnel will be distributed prior to the start of construction. Daily notifications/communications of construction issues and progress will be held as necessary between the Airport staff, the Program Manager, the Engineer, and Contractor. The Airport will brief the FAA and tenants as needed. Communication between the airport staff and tenants and the construction personnel shall be primarily through the Program Manager. If the airport staff and tenants are not able to contact the Program Manager, they may contact the designated Contractor Safety & Security Representative that will be on call 24-hours a day.

100-3.2 Construction Sequencing. The Contractor shall prepare a construction schedule and submit to the Program Manager, no later than 15 days after the date of execution of the Contract. The schedule shall be a fully detailed critical path method (CPM) schedule. Reference the project Special Conditions.

102-4.3 Closing Surfaces. The Contractor shall acquaint his supervisors and employees with the sequence of construction and its relationship to airport activity and aircraft operations that are inherent to the Airport and project work area(s). No runway, taxiway, apron or airport roadway shall be closed without approval of the Owner and/or Program Manager, to enable necessary NOTAMS and/or advisories to airport fixed based operators (FBOs), tenants and users. The Contractor shall contact the Program Manager a minimum of ten (10) days prior to any requested closure.

Any construction activity within 250-feet of the centerline of an active runway or within 93-feet of the centerline of an active taxiway or apron requires the closure of the affected area. These safety areas are shown on the phasing plan.

The Program Manager will arrange for an inspection prior to the return to service of any facility that

has been closed for work, on or adjacent thereto, or that has been used for a crossing point or haul route by the Contractor.

The Contractor will be required to coordinate stockpile locations and heights with the Program Manager for the project site and all staging/storage areas. FAA restrictions affects the allowable height for equipment or stockpiles.

100-4.4 Low Profile Barricades (Type 1). Low Profile Barricade Type I - 10" x 10" x 96" low profile type I barricades as detailed in the drawings shall be furnished by the Contractor. The Contractor shall furnish red flashing and red steady burn lights meeting FAA standards for installation on Contractor Furnished low profile barricades. The lights as installed in the field will longitudinally alternate between steady burn and flashing and shall be maintained for the project duration. The lights will become the property of the Contractor upon completion of the project and shall be removed off of airport property. Multiple installations and removals will be required of the Contractor; however, the Contractor will be paid for only the initial installation. All low-profile barricades will become the property of the Contractor upon completion of the project and shall be removed off of airport property.

100-4.5 Reflective Cone. Reflective cones with red flashing lights that meet FAA standards, as detailed in the drawings, shall be furnished to the jobsite and maintained for project duration. Multiple installations and removals will be required of the Contractor; however, the Contractor will be paid for only the initial installation. The cones with lights will become the property of the Contractor upon completion of the project and shall be removed off of airport property.

100-4.6 Portable Concrete Barrier Rail (Type III). Concrete jersey barricade Type III shall be as detailed in the drawings and shall be furnished by the Contractor. The Contractor shall furnish red flashing and red steady burn lights meeting FAA standards. The lights as installed in the field will longitudinally alternate between steady burn and flashing and shall be maintained for the project duration. Lights shall be placed a maximum of 25' apart and at all corners. Concrete barriers shall be spaced a maximum of 3 feet apart unless otherwise directed by the Program Manager. Multiple installations and removals will be required of the Contractor; however, the Contractor will be paid for only the initial installation. All concrete barricades and lights will become the property of the Contractor upon completion of the project and shall be removed off of airport property.

100-4.7 PORTABLE LIGHTED RUNWAY CLOSURE MARKER. The portable lighted runway closure marker shall meet or exceed FAA Technical Report DOT/FAA/CT-TN87/3 with the following requirements:

- a) Minimum Visibility Range During Daytime VFR Use: 3 miles
- b) Minimum Visibility Range During Nighttime VFR Use: 6 miles

Acceptable manufacturers include (others may be submitted for approved as "an equal"):

Sherwin Industries	-Ph. 800-525-8876
Sweepster	-Ph. 800-291-5313
Batts, Inc.	-Advance, IN
Neubert Aero Corp.	-Tampa, FL

At the conclusion of the project, the Contractor shall deliver all Portable Lighted Runway Closure Markers to the Owner in a clean and like-new condition.

FACILITIES

100-4.7 Field Office Trailer. Not required.

100-4.8 Curing Facilities. The Contractor shall provide initial curing facilities for P-501 beams in accordance with paragraph 501-5.1a.(3) and ASTM C 31. In addition, the initial curing facilities shall be a climate-controlled ground level (roll-off) trailer with sufficient space to hold a minimum of 8 storage tanks. The Contractor shall supply storage tanks deep enough to submerge beams in a vertical orientation. The specific construction of the curing tanks shall follow specifications given in ASTM C 511. The facility shall have tables that run the length of the trailer approximately 36 to 44 inches high to support the beams off the floor. The initial curing facility and tables shall be constructed so that

they can carry the live load from the concrete test beams. (Each beam will weigh approximately 70 pounds) The initial curing facilities shall also have a minimum of 2-110 volt outlets and sufficient lighting to do the necessary paperwork.

The facilities shall be in place and operational at least 60 days prior to placement of P-501 pavement. The maintenance of the facilities will be the responsibility of the Contractor, which will include but will not be limited to climate control, electricity, water, lighting, and water leaks. The Contractor shall be responsible for supplying necessary water and electricity to the facilities. The Contractor shall maintain ownership of the equipment and facilities upon completion of the project. The facilities shall remain in place and operational at least 28 days after the last P-501 pavement has been placed. The specified facilities will be for the sole use of the MSCAA Quality Assurance (QA) testing firm and the Project Manager.

METHOD OF MEASUREMENT

100-5.1 Plastic Safety Fence. Plastic safety fence, including plastic tension wire, as detailed in the drawings, with metal T-posts or with wood posts, shall be furnished and installed at the locations indicated in the plans and/or as directed by the Program Manager, moved as necessary, and removed by Contractor, shall be measured for payment per linear foot.

100-5.2 Guard House. Guard houses, furnished by, installed, and maintained by the Contractor, shall be measured per each based on the initial installation of guard houses. Subsequent relocations of the guard house shall not be measured for payment.

100-5.3 Low Profile Barricade (Type I). Safety barricades furnished by, installed, and maintained by Contractor shall be measured for payment per each based on the initial installation of low profile barricades. Subsequent relocation of the barricades shall not be measured for payment. The Contractor furnished lights shall be considered incidental to the low-profile barricades.

100-5.4 Curing Facilities. This item shall be measured as lump sum for providing curing facilities in accordance with this specification.

100-5.5 Crossing Gate Arm. Crossing gate arms furnished by, installed, and maintained by Contractor shall be measured per each.

100-5.6 Traffic Control. Traffic Control shall be measured per lump sum.

100-5.7 Project Safety & Security. Safety and Security shall be measured as a lump sum item for all required equipment, installation or use of that equipment, and all operations, maintenance or incidentals required to properly maintain phased site safety and airfield security (including sweeper trucks, vacuum trucks, and flagman), unless otherwise indicated as a separate pay item under this specification. Safety and Security shall be furnished for the life of the Contract.

100-5.8 Batch Plant Preparation. Batch Plant Preparation shall be measured as a lump sum item for all required preparation of the area to be used as a Batch Plant.

100-5.9 Temporary Batch Plant Area Fencing. Temporary fencing shall be measured by the linear foot for all items necessary to construct a **6 foot tall** fence to remove the Batch Plant area from the AOA for ease of access. Fencing shall meet all the requirements of **TDOT Standard Right-Of-Way Chain Link Fence, standard drawing S-F-10B.**

100-5.10 Temporary Batch Plant Area Fencing Removal. Temporary Batch Plant Area Fencing Removal shall be measured by the linear foot for complete removal and demolition of the temporary Batch Plant Area Fencing.

BASIS OF PAYMENT

100-6.1 Plastic Safety Fence. Plastic safety fence shall be furnished at the locations indicated in the drawings and/or as directed by the Program Manager. Maintenance shall be incidental and may include replacement of posts, replacement of fabric and/or reattachment of fabric to posts. All costs for safety fence, including installation, final demolition, and relocation, if required, is to be included in the unit price. The price shall be full compensation for transporting, furnishing materials,

and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provisions and intent of the plans and specifications.

100-6.2 Guard House. Contractor furnished guard houses shall be installed on the project site and maintained for the duration of the project. The unit price includes relocating to the site, installation, and relocation throughout the duration (up to but not including the completion) of the project, final removal from the project site, portable toilet, maintenance, cleaning, lights, air conditioning and heat, chair, trash collection, utility hookups and all necessary appurtenances resulting in a useable guard house in accordance with section SC-240 of the project specifications, all utility connection fees, and monthly billings.

Payment will be made only once for each guard house used on the project, regardless if the guard house is moved. Guard house personnel shall be furnished by MSCAA. These prices shall be full compensation for transporting, furnishing materials, and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provision and intent of the plans and specifications.

100-6.3 Low Profile Safety Barricade (Type I). Low Profile Safety Barricades (Type I) shall be furnished at the locations indicated in the drawings and/or as directed by the Program Manager and shall include providing solar powered lights. The Contractor is also responsible for maintenance for the duration of the project, and removal at phase or project completion. Barricade removal and relocation from one location to another location will not be measured for payment. Upon project completion, the Contractor will remove barricades from the project site.

100-6.4 Curing Facilities. The price shall be full compensation for furnishing the Curing Facilities. Payment shall be made at the contract lump sum price for completing this item to the satisfaction of the Program Manager as specified in this specification.

100-6.5 Crossing Gate Arm. Contractor furnished crossing gate arm shall be installed and maintained for the duration of the phase and/or project as required for each AOA fence line penetration and for all active taxiway crossings. The unit price shall include furnishing, installing, maintaining, and relocating throughout the duration of the project. All contractor furnished crossing gate arms shall be removed from the project site upon project completion.

Payment will be made only once for each crossing gate arm used on the project, regardless if the crossing gate arm is moved. The price shall be full compensation for transporting, furnishing materials, and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provision and intent of the plans and specifications.

100-6.6 Traffic Control. Traffic control shall be in accordance with the plans and/or as directed by the Program Manager and paid for at the contract unit price per lump sum installed. Maintenance shall be incidental. All costs for traffic control, including City of Memphis Street Cut Permit, final removal of traffic control items and equipment at completion, restoration of the roadway to its original configuration, is to be included in the cost of this item and will not be measured and paid for separately. The prices shall be full compensation for transporting, furnishing materials, and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provisions and intent of the plans and specifications.

100-6.7 Project Safety & Security. Payment shall be made for airport safety and security measures for personnel or materials related to this specification item and incidentally required to satisfy the specified objective(s) under item S-100-5.7, Project Safety & Security. This shall be full compensation for furnishing all materials and for all labor, equipment, tools, and incidentals necessary to satisfactorily complete the item.

PARTIAL PAYMENTS. Partial payments will be made in accordance with the following:

- a. With first pay request, 25%.
- b. When 25% or more of the original contract amount in dollars is earned, an additional 25%.

- c. When 50% or more of the original contract amount in dollars is earned, an additional 40%.

After Final Inspection, Staging area clean-up and delivery of all Project Closeout materials as required by General Provision, Section 90-11, the final 10%

100-6.8 Batch Plant Preparation. Batch Plant Preparation will be paid as a lump sum item for all items including installation, final demolition, and relocation, if required, is to be included in the unit price. The price shall be full compensation for transporting, furnishing materials, and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provisions and intent of the plans and specifications.

100-6.9 Temporary Batch Plant Area Fencing. Fencing will be paid by the linear foot for all necessary items to construct and maintain temporary fencing to remove the Batch Plant Area from the Airport's Air Operations Area (AOA). The fencing will facilitate easier uncontrolled access to the Batch Plant Area and Staging/Storage area. The fencing shall meet the requirements of TDOT Standard drawing S-F-10B.

100-6.10 Temporary Batch Plant Area Fencing Removal. Removal of temporary AOA fencing surrounding the Batch Plant Area will be paid by the linear foot for all necessary items required for demolition and removal the temporary fencing. The price shall be full compensation for transporting, furnishing materials, and maintenance, for all preparation, assembly, and installation, and for all labor, equipment, tools, and incidentals necessary to complete this item to the provisions and intent of the plans and specifications.

Payment will be made under:

Item S-100-6.1	Plastic safety fence – per Linear Foot
Item S-100-6.2	Guard House (Contractor furnished) – per Each
Item S-100-6.3	Low Profile Barricade (Type 1) (Contractor furnished) – per Each
Item S-100-6.4	Curing Facilities – per Lump Sum
Item S-100-6.5	Crossing Gate Arm – per Each
Item S-100-6.6	Traffic Control – per Lump Sum
Item S-100-6.7	Project Safety & Security – per Lump Sum
Item S-100-6.8	Batch Plant Preparation – per Lump Sum
Item S-100-6.9	Temporary Batch Plant Area Fencing – per Linear Foot
Item S-100-6.10	Temporary Batch Plant Area Fencing Removal – per Linear Foot

END OF ITEM S-100

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