

TENANT IMPROVEMENT STANDARDS

AT
TUCSON INTERNATIONAL AIRPORT (TUS) and Ryan Field (RYN)
February 2019

TAA

INTENTIONALLY BLANK



TENANT IMPROVEMENT STANDARDS

TABLE OF CONTENTS

TUS Statement		
	Introduction	pg. 4
	Objective	pg. 4
1.3	Submittal Flow Chart	pg. 5
Tenant Improv	vement Standards	
2.1	Civil Minimum Requirements	
	1 General Requirements	pg. 6
	2 Airport Wide Drainage & Basin Study	pg. 6
	3 Pavement	pg. 7
	4 Information & Telecommunication Technologies	pg. 7
	5 Electrical	pg. 8
	6 Horizontal Control	pg. 8
	7 Fire Suppression	pg. 8
	8 TUS Master Plan	pg. 8
2.1.9	9 Planning & Engineering Details	pg. 8
2.2	Environmental	
2.2.	1 Storm Water Pollution Protection Plan	pg. 8
	2 Condensate	pg. 9
	3 Dry Wells	pg. 9
2.2.4	4 Oil/Water Separator	pg. 9
2.3	Architectural	
2.3.	1 Hangar Construction Minimums	pg. 1
2.3.2	2 NFPA - Hangar Groups	pg. 1
	3 Outdoor Lighting	pg. 1:
2.3.4		pg. 1
2.3.	5 Fence & Gates	pg. 1
2.3.0	6 Addressing	pg. 1
2.3.7	7 Crane Use	pg. 1

A copy of this document and other requirements can be found on the airports' website: https://www.flytucson.com/taa/business/taa-resources/ or by contacting TAA 520-573-8100 (Tenant Sign Guidelines, an example of a Drainage Report, Planning & Engineering Details, and an example of a Hangar Slab Design Report)



SECTION 1.0 TUCSON INTERNATIONAL AIRPORT STATEMENT

1.1 INTRODUCTION

TUCSON INTERNATIONAL AIRPORT (TUS) strives to be one of the top ten customer friendly and appealing airports for our passengers. The Tucson Airport Authority (TAA) is committed to achieving this goal by providing an attractive and pleasant experience for passengers, terminal users and tenants.

By establishing Tenant Improvement Standards, TUS encourages the development of quality improvements within the distinct environments of the Terminal, Airside & Landside areas. As a highly visible component of the airport environs, tenant improvements play an important role in achieving the above stated goal.

The Tenant Improvement Standards will help to establish a means for functional, durable and aesthetically pleasing; signage, facilities and exterior elements. They will also provide a uniform standard by which all tenant proposals will be assessed. Tenants and tenant contractors will be required to adhere to these standards during the initial design process, any subsequent design changes and throughout the duration of the tenant's lease. All projects must be submitted through a design review

1.2 OBJECTIVE

The primary purpose of the Tenant Improvement Standards is to encourage dynamic tenant solutions to be consistent with the unified aesthetic and functional visions of TUS. The standards help establish minimum acceptable basis of design and provide a pattern by which proposals can be evaluated. Tenants must comply with the requirements and conditions set forth in the Tenant Improvement Standards, and are therefore encouraged to become familiar with the intent and details of this document prior to the commencement of work.

It is important that tenants and their partners know they are responsible to prepare design drawings and specifications. The materials must follow the procedures that are outlined herein. However, TAA process at key project transition dates in order to assure adherence to the Tenant Improvement Standards.

TAA's mission is committed to providing world class service for all internal and external customers. TAA demonstrates this by; planning, constructing, and operating outstanding facilities with state of the art amenities to meet the needs of our customers; actively pursuing and enhancing air transportation services; providing a clean and aesthetically pleasant environment; promoting positive attitudes toward excellent customer services; providing high quality aviation services and facilities for Tucson in a safe, secure and efficient manner; insuring that services are carried out with the highest level of operational commitment, both by TAA personnel and all tenants.

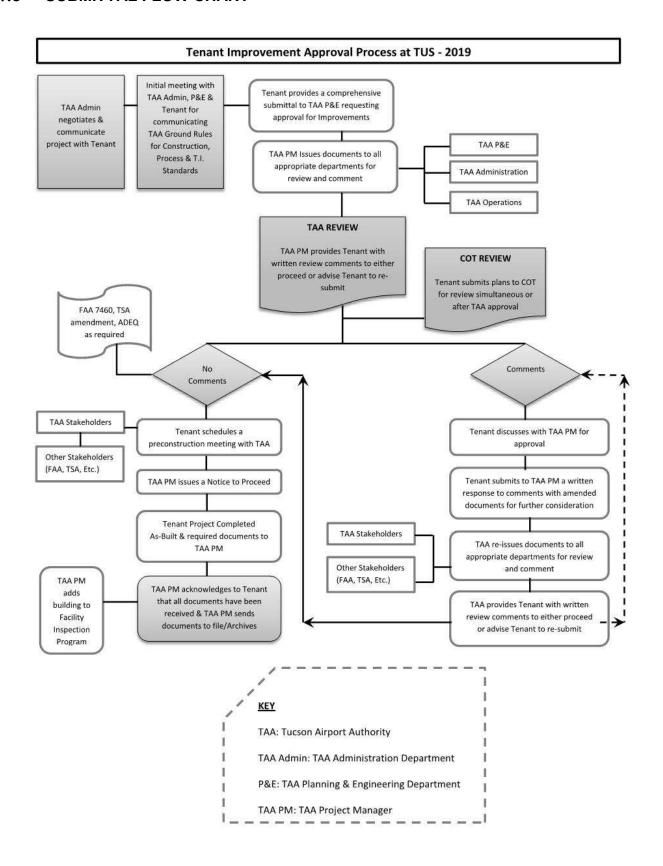
The goal of the Tenant Improvement Standards facilitates achieving these mission commitments. ◆

realizes that general instructions cannot cover every situation. Therefore, the tenant, working with TAA, shall jointly resolve specific points at issue unique to the Tenant Improvement concerns. Should there be discrepancies between the Tenant Improvement Standards and the tenant's lease at TUS, the tenant's lease shall govern.

TAA representatives shall have the absolute right of review and approval over all aspects of Tenant Improvements, as well as discretion to waive any criteria so long as neither the concept, quality or character of the project, and the airport's aesthetics or functions are not adversely impacted. ◆



1.3 SUBMITTAL FLOW CHART





SECTION 2.0 TENANT IMPROVEMENT STANDARDS

All Tenant Improvements occurring within the City Of Tucson (COT) jurisdiction shall comply with all the requirements of the COT Unified Development Code as identified by COT staff. All tenant improvements shall comply with the most current City Of Tucson (COT) Building Codes including all local amendments and jurisdictions.

2.1 CIVIL MINIMUM REQUIREMENTS

2.1.1 General Requirements

General

The developer shall be responsible for setting all elevations to insure proper drainage.

The tenant is responsible for field verifying all existing facilities as part of the design of a specific site.

The tenant shall comply with all aspects of the "Ground Rules for Construction at Tucson International Airport and Ryan Airfield".

Referenced Standards

The referenced "standards" refers to the latest edition of the Arizona Department of Transportation "Standard Specifications for Road and Bridge Construction" and the Pima County / City of Tucson "Standard Specifications for Public Improvements".

Water

All water work shall be done in accordance with the standards / approval of the City of Tucson, Tucson Water and shall follow Pima county Department of Environmental Quality (PDEQ) plan review program.

Sewer

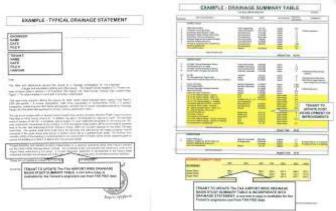
All sewer work shall be done in accordance with Pima County Department of Wastewater Standards and shall follow Pima county Department of Environmental Quality (PDEQ) approval process. The Pima County Wastewater Management Department (PCWMD) is now known as the Pima County Regional Wastewater Reclamation Department (RWRD).

2.1.2 Airport Wide Drainage & Basin Study

<u>General</u>

TAA requires appropriate Drainage Reports for improvement projects and monitors the increase in the impervious area, as required to insure that staged detention requirements are met. All Tenant Improvement/Development projects within TUS will be designed in accordance with COT drainage design criteria, regulations, and policies. The tenant shall prepare a site-specific drainage report or statement and prepare grading & Drainage Plans for TAA's review and approval.

Contact P&E for pdf or hard copies.



Drainage and Geotechnical Reports

The tenant is responsible for obtaining / preparing drainage reports, geo-tech reports, and foundation designs for the specific sites being developed.



2.1.3 Pavement

Aircraft / Apron Flexible / Rigid Pavement

Guidance on aircraft and apron pavement and its structural evaluation necessary to assess the ability of an existing or new pavement to support different types, weights, or volume of airplane traffic is presented in the FAA *Advisory Circular 150/5320-6F Airport Pavement Design and Evaluation*. All tenants shall be responsible for obtaining a professional recommendation on an aircraft / apron pavement section based off of the above Advisory Circular and that recommendation should include the FAARFIELD Calculation sheet if requested by TAA P & E personnel.

[Based on the largest aircraft to operate on pavement]

Vehicle Flexible Pavement

2.5" asphaltic concrete per Pima County Governments Standard Specifications for Public Improvements 2015, Section 406, Mix #2.

6" aggregate base course per Pima County Governments Standard Specifications for Public Improvements 2015, Section 303.

12" compacted subgrade not less than 95 percent of the maximum density

Pavement Infill Areas: Erosion Control (Non-Traffic)

2.0" asphaltic concrete per Pima County Governments Standard Specifications for Public Improvements 2015, Section 406, Mix #2.

8" minimum compacted subgrade to 100% of maximum density.

Pavement Infill Areas: Curbs, Gutters and Sidewalks

Curb, gutters and sidewalks shall be constructed per Pima County Governments Standard Specifications for Public Improvements 2015, Section 908.

No extended curb shall be used without approval of the TAA P & E Personnel.

Pavement Jointing

The edge of existing asphaltic concrete pavement shall be saw-cut and removed a minimum of 12" prior to joining with new infill pavements. Joints shall be cleaned and tacked using a spray apparatus or brushed manually to provide an even applied layer to the joint surface. Cleaning and Tacking will be done to TAA P & E staff / Engineer partiality.

Pavement Marking

Airside Pavement Markings

All Airside Pavement Markings shall conform to the FAA Advisory Circular 150 / 5340-1L. All materials needed to place Airport Markings shall comply with FAA Advisory Circular 150 / 5370-10H item P-620 Runway and Taxiway Marking.

Landside Pavement Markings

All Landside Pavement Markings shall conform to Pima County Governments Standard Specifications for Public Improvements Section 708 and in conformance to the Manual on Uniform Traffic Control Devices (MUTCD).

Testing

Testing shall be completed per referenced Standard requirements by an independent testing laboratory. Passing test results shall be sent to TAA with as-built documents.

Soil Sterilant

Soil sterilant shall be applied under all erosion control pavement to prevent weed growth and pavement damage. Chemical shall be approved by TAA.

2.1.4 Information & Telecommunication Technologies (ITT)

TAA Premises Distribution System Policy & Procedures (PDS) and Cable Management Policy

All work shall be done in accordance with the TAA PDS and Cable Management Policies and Procedures regarding the installation and use of communications infrastructure at TUS.

A current copy can be requested to TAA, ITT Help Desk, 520-573-5100.

New or upgrade service provider infrastructure shall be submitted to TAA to determine if a TAA License Agreement or Lease is required for the proposed work.



General

All work in TAA owned facilities for tele/data, paging/sound systems, security, coax, etc. shall go thru one of TAA's Intermediate Distribution Frame (IDF) rooms. It is the responsibility of the tenant to provide a pathway to the nearest IDF. In some cases, TAA has established pathways via cable tray, J-hooks or conduit.

Cable TV, roof mounted antennas and/or equipment shall be approved by TAA. TAA has designated antenna farms and building penetrations that the tenant shall use.

G.A. Area A

Valencia:

An Underground schematic diagram is available upon request from the Planning & Engineering Division.

2.1.5 Electrical

Federal Pacific Equipment (FPE):

Replacement of all 1980's vintage Federal Pacific electrical distribution equipment, transformers and panelboards shall be included with any new improvements. Replacing the FPE switchboards and panelboards with modern equipment will improve personnel safety and limit the areas of the facility that may be affected in the event of a short circuit.

G.A. Area A Valencia:

TEP capacity for each tenant has been designed to 400 amps for each lot. Contact the Planning & Engineering Division for approval of requirements greater than this.

2.1.6 Horizontal Control

<u>General</u>

All Tenant Improvements regarding ground-up construction shall be engineered to tie into one of TAA's Horizontal Control Plans. Plans are available upon request from the TAA Planning & Engineering Division.

2.1.7 Fire Suppression

General

All Tenant Improvements regarding ground-up construction shall be designed to conform with COT codes regarding NFPA 24 requirements. The minimum separation between Hangars is 40', but can be decreased when certain requirements are met. Fire separation walls and sprinklers may be required based on final design, construction type and final occupancy.

2.1.8 TUS Master Plan

General

All Tenant Improvements regarding ground-up construction shall be developed in accordance with TUS Master Plan, which is available upon request from the TAA Planning & Engineering Division.

City of Tucson - Unified Development Code

Projects occurring within City of Tucson jurisdiction shall comply with all requirements and standards identified in the City of Tucson Unified Development Code and as identified by City of Tucson staff.

Utility Relocation

Any utility which is being relocated, as the result of a project initiated by a tenant or developer, shall be at the sole expense of the respective tenant or developer unless a prior arrangement is made with TAA Properties. TAA and the impacted company of the utility shall review the proposed area the utility is being relocated and shall have final approval of where it is relocated. TAA shall have the right to include additional utility companies, government agencies, or other TAA tenants in the review and final approval process if it is determined that it is needed.

Utility Easements

The tenant and developer shall be solely responsible for all expenses associated with establishing utility easements unless a prior arrangement is made with TAA Properties. This includes but is not limited to activities associated with trenching, boring, pavement repair, generation of all legal descriptions (this includes generating legal descriptions of any utility easement proposed to be abandoned), and relocation of telecommunication infrastructure. TAA and the utility company shall review the proposed area the utility is being located and shall have final approval of where it is located. TAA shall have the right to include additional utility companies,



government agencies, or other TAA tenants in the review and final approval process if it is determined that it is needed.

Utility As-Built Electronic Files

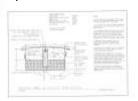
The tenant and developer shall provide TAA with an electronic As-Built ArcGIS Geodatabase file, ArcGIS Pro shapefile, or AutoCAD file containing information on utilities which exist and are new within the project site upon completion of the project. Additional utility information, outside of the project site, may be included in the Utility As-Built Electronic file. Each utility shall be described in sufficient detail to identify the utility type, the company or government agency the utility is assigned, and the utility pathway. Include additional detail regarding utility conduit diameter, pipe diameter, wire gauge, and utility capacity if it is available.

2.1.9 Planning & Engineering Details **General**

Contact P&E for pdf or hard copies.

Tracer Wire & Access Box Detail

House Bill # 2256 Detectable Underground Facilities Requirements states that any underground facility shall be locatable above ground without potholing. TAA has established a detail, Tracer Wire & Access Box Detail, for this requirement.



Pavement Patch Detail



2.2 ENVIRONMENTAL

2.2.1 Storm Water Pollution Prevention Plan (SWPPP), Permitting and Regulatory Compliance

General

The tenant shall prepare and submit all required notices and a Site Specific SWPPP, furnishing all materials, labor and equipment necessary to comply with all requirements for storm water discharges from construction activities, as specified in the Arizona Pollutant Discharge Elimination System (AZPDES) General Permit. The Contractor shall prepare and complete the Notice of Intent, the Site Specific SWPPP and the Notice of Termination as specified below. The tenant shall be responsible for filing all documents and obtaining necessary approvals by federal, state, and local authorities having jurisdiction over the Tenant Improvement project. The tenant shall ensure that the project complies with all applicable federal, state, and local statutory or regulatory requirements. A copy of the TAA SWPPP is available for review at the TAA offices located on the third floor of 7250 S. Tucson Blvd., suite 300, Tucson, Arizona, 85756.

Arizona Pollutant Discharge Elimination System (AZPDES) Requirements

The tenant shall fully comply with all of these regulations and be responsible for obtaining authorization, as necessary, for discharges of stormwater associated with Tenant Improvement construction activity and comply with all requirements of the Arizona Pollutant Discharge Elimination System (AZPDES) and General Permit for Stormwater Discharges Associated with Construction Activity (CGP). The tenant shall prepare and submit all required notices and a site specific Storm Water Pollution Prevention Plan (SWPPP). The tenant shall also furnish all materials, labor and equipment necessary to comply with CGP requirements. A copy of the SWPPP, prepared in accordance the CGP, shall be submitted to TAA for review and approval prior to the project's Pre-Construction meeting.

Site Specific Storm Water Pollution Prevention Plan.

The Contractor shall prepare the **Site Specific SWPPP**. The "Best Management Practices and Erosion Control Manual" published by Maricopa County Flood Control District, shall be used as a guideline to prepare Contractor's Site Specific SWPPP. The TAA SWPPP contains a Site Specific SWPPP form for use by the



Contractor in developing the Site Specific SWPPP. The Site Specific SWPPP shall be submitted to TAA for review. Approval of the Site Specific SWPPP does not relieve the Contractor of the responsibility to comply with the AZPDES General Permit or other permit requirements.

Notice Of Intent

The Contractor shall submit preliminary copies of the Notice of Intent (NOI) form to TAA. The Contractor shall submit the approved NOI form at least 48-hours prior to the Notice to Proceed date to the ADEQ at the following address: Arizona Department of Environmental Quality Water Permits Section / Stormwater NOI (5415B-3) 1110 W. Washington Street Phoenix, AZ 85007.

The NOI may also be submitted to ADEQ via the "Smart NOI" system (az.gov/webapp/noi/main.do). This allows for electronic screening and authorization of the NOI. Forms still have to be printed, signed, and submitted to ADEQ if using this method. The NOI is voided in 10-days if the signature copy is not received by ADEQ. The Contractor shall also send a copy of the Notice of Intent to:

Tucson Airport Authority.
Director of Environmental Services
Tucson Airport Authority
7250 S. Tucson Blvd., suite 300
Tucson, AZ 85756

Storm Water Program / NOI Pima County Dept. of Environmental Quality (PDEQ) 33 N. Stone Ave., suite 700 Tucson, AZ 85701 Phone: 520-724-7400

Notice Of Termination

Upon final stabilization of the construction site and demobilization of equipment, the Contractor shall submit his completed, signed Notice of Termination form to ADEQ, with copies to TAA, and all agencies who received a copy of the Notice of Intent, thereby terminating all AZPDES permit coverage for the project.

2.2.2 Condensate

General

All condensate from HVAC units and evaporative cooler drains shall be plumbed to the sanitary sewer.

2.2.3 Dry Wells

General

Dry wells are not permitted.

2.2.4 Oil/Water Separators

General

Hangars with floor drains, which are connected to the sanitary sewer, shall be equipped with an oil/water separator and permitted through Pima County Wastewater Municipal Department (PCWMD). The Industrial Wastewater Control (IWC) issues the permits for the oil/water separators.

2.2.5 Conclusion

General

Tenants, contractors, and sub-contractors must ensure to comply with all applicable Federal, State, County, and City laws, regulations, and guidelines pertaining to the protection of the environment.



2.3 ARCHITECTURAL

2.3.1 Hangar Construction Minimums

General

All hangars shall be designed to maximize the use of the floor area per hangar. The concrete slab shall be designed for maximum weight capacity for the largest plane possible to occupy the hangar, fully fueled (wing span, aircraft length, tail height and weight). All hangar designs shall be submitted to TAA for review and approval per TAA's Ground Rules of Construction.

Attached in Appendix #6 for your use.

| CAMPLE - TYPICAL HANGAR SLAG DESIGN
| CAMPLE - TYPICAL HANGAR SLAG DESIGN SLA

Pre-Engineered Metal Building

Acceptable building manufacturers are: VP Buildings, Nucor Building Systems, Butler Manufacturing Company, American Steel Building Company. Building manufacturer shall be certified for design and fabrication of Pre-Engineered Metal Buildings by American Institute of Steel Construction and a member of MBMA. Provide a 5-year manufacturer's warranty against defects in materials and workmanship. Provide a 20-year manufacturer's warranty against roof and wall panel rupture, structural failure, blistering, peeling, cracking or excessive color change. Provide a 5-year builder's warranty for building weather tightness as well as a 3-year guarantee against defects in installation or workmanship. The building structure frame types shall be clear span rigid frame (solid or open web rafter) type with straight or tapered sections designed in accordance with AISC construction. Roof slope shall be per local codes. Light gauge, cold formed structural members and exterior coverings shall be designed based upon the applicable sections of AISI. Provide frame design and deflections to be compatible with hangar door design for all loading, deflections, etc.

Hangar Doors

All door systems cannot extend past the building footprint as determined in the Valencia GA hangar area master plan. However, bi-fold doors may project past the front of the hangar as required.

Hangars 10,000 square feet or larger have electric operators

A drive unit unitized assembly, consisting of a totally enclosed fan cooled motor, right angle worm gear box, overload and emergency disconnect and necessary roller chains and sprockets. Single speed, squirrel cage type motor sufficient to operate the door leaves at not more than 75 percent of rated capacity. The drive bases shall be adjustable and designed to rigidly support the drive components without deflection or torsional rotation under the operating loads. A variable frequency drive producing an adjustable-frequency, adjustable voltage, Pulse Width Modulated output. The drive shall be suitable for use with NEMA Design B, AC induction motors with a 1.15 service factor. Drives shall be designed, constructed and tested in accordance with NEMA, UL, NEC, and IEEE standards. Drives shall be factory wired, with overload and under voltage protection, equipped with electrical interlocks and with transformers and relays for control circuits, all enclosed in an enclosure with a disconnect switch, capable of being locked in the OFF/OPEN position. Provide operator with polarized reflex sensors which have both a light source and detector in the same unit. The sensors feature visible red sources to aid in alignment of the sensor with a retro reflector. Provide a programmable relay that will allow the hangar doors to start from a fully closed position and run at half speed for 2.5 feet, then ramp up to full speed. At 2.5 feet from full open position, doors are to ramp down and run at half speed before stopping.



Bi-Fold Door Systems

All Bi-fold hangar doors shall be steel bi-fold doors as manufactured by Schweiss, Wilson Doors, Inc., or equal. Size shall be maximized to allow for the most flexibility in each hangar design and size.

Doors from Metal Building manufacturers will NOT be accepted unless proven by the manufacturer to be equal to the Schweiss or Wilson doors. Doors shall be constructed of steel tubing and cold formed steel structural members. Provide standard auto locks that automatically lock and unlock door as it opens and closes with a push of a button. Automatic base lock shall secure door in place in the face of heavy wind gusts. Provide standard contact up/down/stop buttons. Provide top and bottom rubber weather stripping providing a tight seal. 230 volt, single phase, pre-wired electric operator with over travel limit switch preventing possible damage from the door trying to open beyond its natural limit. (Final electrification in field) Door to be sheeted with standard 24-gauge wall sheeting to match the walls of the pre-engineered building (26-gauge for lower end hangers such as T-hangars. Standard primer of all steel.

Sliding Door Systems

All sliding door systems shall be as manufactured by Norco Manufacturing Corporations, Fleming Steel or International Door. Size shall be maximized to allow for the most flexibility in each hangar design and size.

All sliding doors systems shall be engineered by a registered engineer from the State of Arizona. Hangar doors from Metal Building manufacturers will NOT be accepted unless proven by the manufacturer to be equal to the Schweiss or Wilson doors. Each door system shall roll upon a bottom rail assembly as follows: Anchor bolts shall be suitable for use intended with double nuts for leveling bottom rail supports. Rail supports shall be factory cut to size and punched hot rolled angles of a minimum yield strength of 36,000 psi for leveling and supporting bottom rails to prevent movement during erection. Bottom rail shall be ASCE specification rail (minimum 20#/yd.) of proper weight to accommodate the design, thrust, and weight loads for each specific installation. Doors shall be constructed of either cold formed or hot rolled structural members as required by design. Maximum deflection for wind loading may not exceed L/180. Door to be sheeted with standard 24gauge wall sheeting to match the walls of the pre-engineered building (26-gauge for lower end hangers such as T-hangar. Provide upper guide rail and roller system that is compatible with the Pre-Engineered metal building deflection design criteria and as follows: Upper guide rail shall be "H" or "I" shape and conform to ASTM A-36 or better. Size, weight and shape as required for door design. The web of the rail shall be sized to accommodate the building deflection, permitting unopposed operation of the doors under maximum loading conditions. Upper track brackets shall be wide flange beams, supporting the upper guide rails on a maximum of 10' centers. Closure plate shall be 14-gauge sheets sandwiched between the guide rails and track brackets so as to act as both a soffit and diaphragm to help distribute the tributary wind loads of the doors into the structure.

Roof

White steel roof panels shall be 24-gauge 50-KSI (yield strength steel), or 26-gauge 80-KSI, standing seam roof with minimum 3" high rib and 24" minimum coverage. Panels shall be mechanically seamed such that the final seam shall be a full 360-degree interlocking seam. The seam clips shall allow for +/- 1" of thermal movement. Roof panels shall be white siliconized polyester finish. All hangars will have 26-gauge gutters and down spouts as necessary. There will be no roof penetrations. Accommodation for satellite dishes or antennas will be made on the side of the hangars and will be subject to TAA review. No HVAC/cooler equipment will be allowed on the roof. All roof panels shall be a white color, trim and gutter system pieces shall be blue. Submit final color samples with accurate information on the backside regarding; gauge, KSI, manufacturer, color, panel type, and where used, to TAA for final approval.

Wall Panels

White steel wall panels 24-gauge 50-KSI (yield strength steel), or 26-gauge 80-KSI, with not less than 1 $\frac{1}{4}$ " deep ribs spaced not more than 12" on center. Profile shall match that of Varco Pruden (VP) "Panel Rib" wall panel. Finish shall be white siliconized polyester. All wall panels shall be standard white colors, trim and gutter system colors shall be standard blue colors submitted to TAA for final approval.

Concrete

Concrete foundations and slabs on grade shall strictly adhere to the soil investigation recommendations and ACI 301 and 318. Determine concrete slab thickness and reinforcing by engineering analysis, including loading requirements in the design. The size of the hangar and its use shall determine the loading requirements for each individual hangar. Minimum slab thickness shall be a minimum of 6" constructed on minimum 4" compacted ABC. Minimum building slab flatness and levelness shall have an overall value +/- 1/8" in 10 ft. All foundations and slabs shall require a minimum 28-day compressive strength of 3,000 PSI. All slabs on grade



shall have minimum reinforcing of #4 bars at 24" O.C. each way or greater as determined by the loading requirements. All rebar shall comply with ASTM A 615, grade 60. Terminate bars at all cold joints. Provide dowels at all cold joints. Curing of concrete shall adhere to ACI 308. However, all curing systems shall be compatible with the final sealing or coating of the concrete slab. A vapor barrier may be required pending the final sealing or coating system desired.

Concrete control Joints

Saw cut control joints in a square pattern before temperature checking and cracking begin and as soon as strength is such that cutting will not disturb aggregate. Joints shall be spaced equally and shall be no more than 15' apart each direction.

Insulation

All Pre-Engineered metal building insulation shall have a Polypropylene-Scrim-Kraft (PSK) facing as a minimum. No vinyl facing shall be accepted. Thermal value of insulation to be designed per hangar and may vary based on HVAC systems.

Restrooms

All hangars will have at least one common unisex, American Disabilities Act (ADA) compliant restroom.

HVAC

All HVAC condensation and purge drains (such as "Mastercool" units) shall be plumbed to the sanitary sewer system.

Paint

Provide all uncoated structural and miscellaneous steel with one shop coat of manufacturer's standard primer.

2.3.2 National Fire Protection Association (NFPA)

Aircraft Hangar Groups

All hangars shall meet all codes and standards in the NFPA 409 Standard on Aircraft Hangars.

2.3.3 Outdoor Lighting

General

All outside area lighting shall meet all codes and standards.

No light fixtures shall be aimed in a manner that could hinder aircraft or ground vehicle operations.

2.3.4 UG Utilities

Blue Stake

The tenant shall schedule all Blue Stakes, which shall include TAA. TAA may have TAA/FAA/ANG/Tenant owned facilities located.

2.3.5 Fencing & Gates

General

TAA Security Fence/Security Gate Standard includes guide specification & details for this type of fence. A current copy can be found on the airports' website: https://www.flytucson.com/taa/business/taa-resources/

2.3.6 Addressing

General

All addressing on Airport shall be through Pima County.

2.3.7 Permanent Structures, Antennas and/or Crane Use

Federal Aviation Administration (FAA)

Notification of utilizing cranes at locations that would affect airspace landing/departure procedures is imperative to the safe operation at TUS. Tenants shall follow the TAA **Procedures for Notification of Crane Use at Airport or within Airspace of Airport** for all cranes used on airport or within 4 miles of airport. A current copy can be requested from TAA at 520-573-8100

FAA Title 14 of the Code of Federal Regulations (14 CFR) Part 77, the prime objectives of the FAA are to promote air safety and the efficient use of the navigable airspace. To accomplish this mission, aeronautical



studies are conducted based on information provided by proponents on an FAA Form 7460-1, Notice of Proposed Construction or Alteration.

Advisory Circular 70/7460-1L Change 2, Obstruction Marking and Lighting, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc.

If your organization is planning to sponsor any construction or alterations which may affect navigable airspace, you must file a Notice of Proposed Construction or Alteration (FAA Form 7460-1) either electronically via this website or manually with the FAA. The FAAs' website: https://oeaaa.faa.gov/oeaaa/external/portal.jsp

