



AVIATION
ALLIANCE • MEACHAM • SPINKS



**FORT WORTH
AVIATION
DEVELOPMENT
GUIDE**

UPDATED (OCT 2019)

Thank you for your interest in leasing airport property to construct aviation related facilities at one of our Fort Worth Airports. We are excited to provide you with this guide to assist you in the development process.

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Disclaimer: This guide is subject to change and is not all inclusive of every requirement imposed by the City of Fort Worth and/or the Aviation Department.

I. Development Process Checklist

Item		Estimated Date of Completion	Done
1.	Determine scope of development and desired activity. <i>Action Item: Schedule meeting with Airport Manager to discuss project and site needs.</i>		
2.	Present and discuss proposed development with City staff. <i>Action Item: Schedule meeting with Airport, Building Inspections, Water, Fire, Forestry and Engineering (Airport staff will assist in scheduling meeting.) Complete Hangar Development Questionnaire and submit to Airport Management</i>		
3.	Prepare design concept plans as required by City staff. <i>Action Items: (1) Identify a general contractor if you have not selected one already; (2) Complete Commercial Building Permit; (3) Complete lot survey and legal description by city approved surveyor.</i>		
4.	Attend a pre-development conference with Planning and Development Department <i>Action Item: Schedule the meeting with Planning to discuss all City requirements for building and construction. Pre-development conferences can be scheduled multiple times if needed.</i>		
5.	Applicant submits an FAA Form 7460-1 and corresponding environmental impacts. <i>Action Item: Once form completed, submit online to FAA at https://oeaaa.faa.gov. Staff will notify you when the FAA approves the development or if alterations must be completed. If proposal is objected, determine with assistance of Airport Manager if a Reimbursable Agreement with the FAA is necessary to mitigate concerns. Complete Catex form and submit to local FAA regional office.</i>		
6.	Complete lease negotiation with Airport Manager. <i>Action Item: Schedule a meeting with the Airport Management to discuss your lease agreement. Airport staff will submit lease to Legal for approval after negotiations are complete.</i>		
7.	Aviation Advisory Board reviews Aviation Advisory Board Communication. <i>Action Items: Airport staff will submit a communication to the Aviation Advisory Board for review.</i>		
8.	The Aviation Advisory Board recommends communication for approval to the City Council. <i>Action Item: (1) Developer should have survey and legal description complete and submitted to Airport staff before lease agreement is sent to City Council for approval; (2) Airport staff will call you when the lease agreements are ready to be signed. Once the lease agreements are signed, staff will place the Mayor and Council Communication on the next available regular City Council meeting agenda for Council review/approval. Staff will inform you when the communication will go before the Council for approval. Expect a 60 day timeframe for approval.</i>		
9.	Apply for a Building Permit. <i>Action Item: Upon Council approval of the lease agreement, you may submit the attached Commercial Building Permit and submit to Building Inspections.</i>		

10.	<p>Attend a pre-construction meeting / Airport construction safety meeting. <i>Action Item: Schedule the meeting with airport staff to discuss construction safety requirements and construction equipment access at Airport.</i></p>		
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II. Airport Development Procedures

The following development guidelines shall apply to those desiring to lease and build facilities on any of the City of Fort Worth Airports.

A. General

The Airport Layout Plan(s) (ALP) shall be adhered to. Any deviations from the ALP(s) shall be approved by the Department of Aviation. Subsequent to City Council approval, FAA Form 7460, Notice of Proposed Construction and Alteration shall be submitted to the Federal Aviation Administration (FAA) for their *review* and comment.

Other City departments affected by such deviation(s) shall be provided a site plan for individual departmental review and comment.

B. Site Plan Circulation

The developer must provide the following plans to the Aviation Department for Approval.

- Preliminary Concept Plans
- Design plans at the 90% stage
- Design plans at the 100% completed design stage (FINAL APPROVAL)

All plans submitted must include utilities. Upon completion of the project, the developer must provide electronic “As-Built” plans to the Aviation Department to include a completed site survey.

In addition to the Aviation Department approval of plans. The developer will submit Seven (7) copies of the engineer stamped site plans to the following City Departments:

- 2 copies to Department of Transportation/Public Works
- 2 copies to Water Department
- 2 copies to Fire Department (Fire Marshall's Office)
- 1 copy plus two sets of plans to Department of Planning & Development (Bldg Official's Office & Office of Development Coordinator)

The Office of the Development Coordinator in the Department of Planning & Development shall collect and coordinate all comments with the Director of the Aviation Department.

C. Site Plan Preparation

The site plan must show the information necessary for the various departmental reviews. The information shall include, but not be limited to the following:

1. A copy of the applicable plat map for the site even if the property is owned by the City of Fort Worth
2. A survey with site number identification and description as written by the City Survey Section, Department of Transportation/Public Works (T/PW)
3. A description of the access roads and parking lots to be provided for non-airport operational vehicles on the site plan.
4. Easements for utilities (both public and private) must be provided and shown on the site plan. Existing utilities on lease sites serving other sites must also be identified and shown on the site plan. Any existing utilities in need of relocation fall under the sole responsibility of the developer including the coordination of all easements.
5. All hardstands, taxiways, access roads, buildings and any other operational airport facilities on an area around the property line equal to the height of the building or structure, but no less than ten (10) feet, shall be shown on the site plan.
6. The site plan shall show all site paving, parking, site ingress, egress and drainage. Drainage patterns shall be shown by surface elevations illustrated as contour lines at intervals no greater than one (1) foot both present and planned placed upon the site plan. Storm Water Pollution Prevention Plan shall be included with your drainage plan.
7. Fire lanes and fire hydrant locations shall be shown on the site plan. Fire lanes must be provided when the farthest point of a building is more than one-hundred and fifty (150) feet from any public street, highway, roadway, taxiway, ramp or hardstand. Fire lanes shall be a minimum of twenty (20) feet in width with a three (3) foot clear area on each side of the fire lane. Buildings on the site plan must be within a five hundred (500) foot fire hose lay, using the most direct route of access from a fire hydrant. When more than one fire hydrant is required, the hydrants must be installed on a three hundred (300) foot radius along a direct line between hydrants. Eight (8) inch mains are required. Fire lane markings can have some deviation on the airside from the landside due to FAA marking requirements but must still be approved by the Fire Department.
8. A plan for sprinkler systems. Hangars greater than 12,000 sq. ft. require sprinkler systems. Hangars with 28 foot high doors or larger require foam suppression

systems. Further details are available from the Fire Department in pre-development conferences. See Item 4 of checklist for info on scheduling a conference. Exceptions based on hangar usage can occur in special occasions. It is the Aviation Departments policy to make the highest and best use of land. Minimizing hangar size to circumvent fire suppression requirements will not be approved. All hangar construction will be done in accordance with NFPA 409.

9. Floor Drains:

Floor Drains within the hangar space may be required if there are going to be aircraft washing or similar operations within the hangar. If the hangar is only going to be used for aircraft, a floor drain is not required. Be sure to advise the Fire Department if the intended use is aircraft storage only and have them clarify the requirement beforehand.

Buildings having floor drains (located in other than restrooms) connected, to the sanitary sewer, shall provide an oil water separator and inspection manholes on the site outside the building.

10. Compliance with FAA Regulation Part 77 is mandatory. Part 77 protects airspace and navigation from obstructions or interference. Any person/organization who intends to sponsor on-airport construction or construction within 5 miles of an airport must notify the FAA via a FAA Form 7460 available on oeaaa.faa.gov. Please see Item 5 of the checklist for further details.

11. A site location map on the sheet drawing containing the site plan.

12. A layout of fencing, security gates, and a plan for the separation of vehicles and aircraft. The airport standard fence can be referenced in Part II – Section L of this document.

13. Any new facility construction along an airport access roadway must be have a minimum set-back distance of 10ft from the roadway curb to the structure to allow for public utility easement pathways. All new leases abutting airport access roads must proceed all the way to the curb or the associated Right-of-way and all lease holders must maintain pavement, landscaping and aesthetics to the curb while not constructing any structure within the 10ft set-back utility pathway. Leases abutting taxiways or taxilanes must proceed all the way to the Object Free Area for that particular Taxiway or Taxilane.

If the Fire Department requires a 30ft setback from lease boundary, contact the Aviation Department as this does not apply to City owned property. It is only intended for adjacent property owner boundaries.

The 30ft building to building setback requirement can be reduced with the installation of 2 hour fire walls.

14. Dumpster Containment:

All new facilities must have a dumpster containment unit. This unit must include 3 walls and swinging metal doors. The walls and doors must be 8ft in height to completely obscure the dumpster from view. The structure exterior must match the primary facility being built. The unit must be large enough to accommodate the number of dumpsters or recycling containers needed by the facility.

D. Building Plan (Architectural Drawings)

Although additional information may be required by other City Departments for review, the minimum information necessary for Aviation departmental review is as follows:

1. Floor plans
2. Intended uses of internal spaces
3. Dimensions of all internal spaces
4. Roof plan
5. Building heights
6. Materials
7. Colors
8. Finishes
9. Lighting (Interior & Exterior)
10. Building area (square footage)
11. Any other information pertinent to the building(s) and facilities to be constructed
12. Dumpster containment structure

E. Hangar and Site Signage Requirements

Although additional information may be required by other City Departments for review, the minimum information necessary for Aviation Departmental review is as follows:

(signage cannot not be painted directly onto a building exterior)

1. Graphic layout
2. Size
3. Location on site
4. Construction details and materials
5. Color
6. Height (sign height and ground elevation to top)
7. If illuminated, indicate arrangement and type
8. Location sign (airport building location number)

9. Any other pertinent information
Temporary signage is not allowed unless approved by the Aviation Department.

F. Landscape Plan Preparation/Requirements

The Department of Aviation requires a minimum level of landscaping to be installed with all new construction. Meacham Airport is a professional executive airport and strives for a best-in-class appearance. Having professionally landscaped facilities allows the airport to maintain that appearance. The landscaping plan must require trees, bushes and irrigated grass. A landscape plan must be provided as part of the site plan preparation to show applicable location and type of the following items:

1. Trees and shrubs, may require an FAA Form 7460 filed for the maximum expected height
2. Landscaping shall be conducive to area climate (i.e., hot and cold temperature conditions)
3. Ground cover (i.e., grass, mulch, zero scape)
4. All new development must include sidewalks/walkways, connecting adjacent parcels, as may be applicable and determined by the Aviation Department, to maximize pedestrian access.
5. Slope stabilization (retaining walls)
6. Grading
7. Landscaped area (square footage)
8. No artificial landscape materials
9. Any other pertinent information

This landscaping plan must be approved by the Department of Aviation prior to proceeding.

G. Architectural Design Guidelines

1. Materials

a. The number of materials used for the exterior of all buildings shall be kept to a minimum in order to achieve unity and simplicity. No more than two (2) basic building materials should be used in addition to glass. Buildings may be of metal or masonry or a combination such as masonry viewed from landside and metal viewed from airside.

b. Suggested exterior materials are:

1. Concrete with a specialized textured finish
2. Brick, stone, clay tile
3. Stucco

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4. Metal
 5. Glass
2. Design
- a. Rectangular building shapes are strongly recommended.
 - b. No storage or portable buildings are permitted unless approved by the Aviation Department. This prohibition does not include approved containment containers for storing environmentally regulated materials.
 - c. Gable type roof pitches are strongly recommended.
 - d. Free standing canopy type hangars are permitted (unenclosed structure) at the discretion of the City, only after justification for the construction of said hangars as opposed to enclosed hangars. Carports/canopies attached to permanent buildings are acceptable.
 - e. Buildings shall be (1) aligned parallel or perpendicular to the airport's Building Restriction Line (BRL), (2) located at a uniform setback distance from the BRL, and (3) compatible with adjacent development. The distance from the building's exterior wall to the BRL and angle of orientation to the BRL shall be shown on the site plan.
 - f. Any new permanent or temporary building to be constructed must provide a minimum of 5000 square feet of space for the activities contemplated to be performed.
 - g. Temporary buildings will be permitted at the discretion of the City, and with sufficient justification for said building, as opposed to a permanent structure. Temporary buildings to be constructed, must meet the minimum space requirements as set forth in this Article for construction of new buildings.

H. Plans and Specifications

Plans and specifications shall be approved by the following departments:

1. Department of Transportation/Public Works – All taxilanes, hardstands, roadways, parking lots, paved areas, drainage, site description(s) and numbering, and easement locations.

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2. Water Department – Public water, sewer, and fire hydrants connected to public water sources.
 3. Fire Department – Fire hydrants connected to private water sources.
*****Note exact foam system in hangar changes*****
 4. Department of Planning and Development – Building, water, and sewer (private), electrical, plumbing, mechanical, and sign.
 5. FAA – Clearance and building heights.

I. Issuance of Building Permits

The issuance of building permits will be done after a lease has been approved. An application (as stated previously) shall be made as stated in paragraph B. Upon completion of site plan circulation, approval of the Building Plans and approval of the lease, the building permit may be issued.

J. Inspections

The following departments shall be contacted for inspections during construction stages:

1. Public Water and Sewer – Water Department
2. Private Water and Sewer – Development Department
3. Fire Hydrants on Public Water Systems – Water Department
4. Fire Hydrants on private Water Systems – Fire Department
5. Paving, Parking Lots, Roadways, Drainage Facilities, Ramps, Taxiways, and Runways – Aviation Department
6. Building Construction – Planning and Development Department
7. Final Inspections and Occupancy Permits (only after other departments have cleared their inspections) – Inspections Division

K. Colors

- a. Predominant exterior colors shall be neutral, white, greys or earth tone and shall be compatible with adjacent development
- b. Other colors may be used for accenting, trim, and signage and must be approved by the Department of Aviation.
- c. Hangars are required to be fully painted as opposed to painting individual sections.

L. Fencing

- a. Fencing along public roadways must meet the following specifications
Manufacturer: Ameristar Fencing .
Type: Steel Ornamental.
Fence Brand: 7ft. (minimum) Montage II. (Specifications are attached to this document)
- b. All other fencing must be at a minimum black coated 6ft chain link fence with black coated 3-strand barbed wire on the top. **Some areas might require the Montage II fence when determined by the Aviation Department.**
- c. All permanent fencing must include a 18" mow-strip. Refer to mow-strip specs.
- d. All fencing layouts and plans must be reviewed and approved by the Department of Aviation and meet FAA Part 139 regulations and Transportation Security Agency Regulations (TFRs).

M. HVAC Systems/Industrial Equipment

- a. All equipment both industrial and HVAC must be obscured or hidden from public view such as compressors or condenser units.

N. Gates and Operators

- a. Material used for gates and operators shall match surrounding fence. Preferred operator for gates is a Hy-Security Slide Driver operator or similar.

O. Exterior Lighting

- a. Exterior lighting must be positioned so as not to impair the vision of the Air Traffic Control Tower or aircraft operators utilizing the airport.

III. Resources

City of Fort Worth Departments

Aviation Department

Meacham Airport Administration

Desk: 817-392-5400, Fax: 817-392-5413

Spinks Airport Administration

Desk: 817-392-5430, Fax: 817-447-8334

Planning and Development Department

Annexations and Platting

Planning Manager

Desk: 817-392-8030, Fax: 817-392-7985

Pre-Development Conferences/Right-of-Way Encroachments

Development Project Coordinator

Desk: 817-392-2239, Fax: 817-392-7985

Board of Adjustment

Planner

Desk: 817-392-2414, Fax: 817-392-7526

Downtown Review Board, and Scenic Preservation

Desk: 817-392-8481, Fax: 817-392-7526

Zoning

Desk: 817-392-2495

Fire Construction Board of Appeals

Customer Service Specialist

Desk: 817-392-7842, Fax: 817-392-8116

Permitting

Customer Service Representatives

Main Telephone: 817-392-2222, Fax: 817-392-8116; IVR: 817-392-6370

Plans Exam

Assistant Building Official

Desk: 817-392-2590, Fax: 817-392-8116

Building Inspections

Gary Caldwell, Assistant Building Official

Desk: 817-392-8093; Fax: 817-392-8116

Electrical Inspections

Desk: 817-392-7830

Mechanical Inspections

Desk: 817-392-7886

Plumbing Inspections

Desk: 817-392-7980

Residential Inspections

Desk: 817-392-8793

Signage

Desk: 817-392-7830

Third Party Review and Inspection, Building Official

Desk: 817-392-7825

Comprehensive Plan Land Use

Desk: 817-392-8013

Historic Preservation

Desk: 817-392-8001

Desk: 817-392-5985

Urban Village Development Program

Desk: 817-392-8068

Desk: 817-392-7373

Transportation and Public Works Department

Floodplain Maps

Desk: 817-392-8426, Fax: 817-871-7854

City Infrastructure/Civil Plans – Review & Approval

Desk: 817-392-7959, Fax: 817-871-7854

Desk: 817-392-7818, Fax: 817-871-7854

Desk: 817-392-6250, Fax: 817-871-7854

Environmental Management Department

EPA Permit Requirements for Construction Sites 1-acre or greater

Desk: 817-561-3700, Fax: 817-871-5464

Desk: 817-561-3700/3701, Fax: 817-871-5464

Fire Department

Addressing

Desk: 817-871-6797, Fax: 817-871-6867

Inspections

Desk: 817-871-6835, Fax: 817-871-6867

Plat Review

Desk: 817-871-6845, Fax: 817-871-6867

Parks and Community Services Department

Design, Construction, Plan Review and Project Management- Park Development, City Construction Projects, and Utility Construction Review

Desk: 817-871-5746

Design and Construction Plan and Site Review for Tree Permitting, Planting, and Removal in the Right-of-Way and on City Property

Desk: 817-871-5705

Neighborhood Park Dedication Policy, Community Facility Agreements, Easements, Use Agreements, Staff Reports, and Plat Review

Desk: 817-871-5745

Park Policy and Management, Land Development, Park Development and Acquisition

Desk: 817-871-5745

Zoning/BOA

Desk: 817-871-5706

Transportation and Public Works Department

Real Property Management

Street/Easement Vacation & Land Valuation

Desk: 817-392-8538

Banners, Special Events

Desk: 817-871-7894, Fax: 817-871-8941

Drainage

Desk: 817-392-7901, Fax: 817-392-8092

Driveway Approaches / Parkway Permits

Desk: 817-392-6646, Fax: 817-870-4815

Master Thoroughfare Plan Amendments

Desk: 817-392-8701, Fax: 817-392-8092

Median Openings

Desk: 817-392-8701, Fax: 817-392-8092

Platting

Desk: 817-392-8701, Fax: 817-392-8092

Sidewalks

Desk: 817-392-8701

Signals, Signs and Markings

Desk: 817-392-6748, Fax 817-871-8941

Street Design

Desk: 817-392-7802, Fax: 817-392-8092

Street Design/Traffic Issues

Desk: 817-392-8055, Fax: 817-392-8092

Street Lights

Desk: 817-871-6596, Fax: 817-392-8092

Street Vacations

Desk: 817-392-8701, Fax: 817-392-8092

Traffic Impact Studies

Desk: 817-392-8005, Fax: 817-392-8092

Transportation Impact Fees

Desk: 817-392-7918

Water Department

Backflow Prevention and Grease Traps

Desk: 817-871-8495 & 817-871-8566

Desk: 817-871-8375 & 817-871-8305

Water and Sewer Mains and Taps

Desk: 817-392-8292, Fax: 817-392-8703

Development Issues

Desk: 817-392-8252, Fax: 817-392-8195

Development Issues with Water/Sewer Availability

Desk: 817-392-8480, Fax: 817-392-8195

Housing and Economic Development

Desk: 817-392-8187, Fax: 817-392-2437

Desk: 817-392-8003, Fax: 817-392-2437

Neighborhood Empowerment Zone

Desk: 817-392-7316, Fax: 817-392-7328

Housing Development Fund

Desk: 817-392-8091, Fax: 817-392-7328

Community Housing Development Organization (CHDO) Fund

Desk: 817-392-7331, Fax: 817-392-7328

Conveyance of Tax Foreclosure Properties to Eligible Non-Profit Organizations

Desk: 817-392-7319, Fax: 817-392-7328

Resources

The Counties

Denton County

County Planning Department

Desk: 940-565-8624, Fax: 940-565-5657

Environmental Health Department

Desk: 940-565-8685, Office Hours: 8-9 am & 1-2 pm

Johnson County

Health Department

Desk: 817-556-6380, Fax: 817-556-6391

Parker County

Health Department

Desk: 817-598-6175, Fax: 817-598-6177

Tarrant County

Health Department

Desk: 817-871-7511, Fax: 817-871-7283

Recorded Deeds and Plats

Desk: 817-884-1195

Transportation Services Department

Desk: 817-844-1250, Fax: 817-884-1178

Resources

The State

Alcoholic Beverage Commission - Applications for Sale of Alcohol

Desk: 817-451-9466

Department of Transportation (TxDOT)

Fort Worth District (Tarrant & Other Adjacent Counties)

Desk: 817-370-6532

Department of Transportation (TxDOT)

Desk: 817-370-6551

Resources

The Utilities

Electricity & Natural Gas

CoServ Electric (Formerly Denton County Electrical Co-Op)

Desk: 940-321-6644, Fax: 940-321-6640

Johnson County Electric Co-Op (JCEC)

Desk: 817-558-0010, Fax: 817-556-4039

TXU (Texas Utilities Electric Co. / Lone Star Gas)

Desk: 817-215-6688, Fax: 817-215-6184

Desk: 817-215-6254, Fax: 817-215-6316

Desk: 817-215-6218, Fax: 817-215-6660

Tri-County Electric Cooperative, Inc.

Desk: 817-431-1541, Metro: 817-379-4703, Fax: 817-431-9680

Telephone Service

AT&T

Desk: 404-810-4556, Fax: 404-810-4404

GTE

Desk: 972-717-5828, Fax: 972-717-5834

Millennium Telecom

Desk: 817-379-3007

Desk: 817-379-3007

Southwestern Bell Telephone, Inc.

Desk: 817-267-5752, Fax: 817-338-5106

Water Providers

Certificate of Convenience and Necessity (CCN)

For areas not served by the City of Fort Worth, please contact the Utility Section of the Texas Natural Resource Conservation Commission (TNRCC). To learn of the specific water provider (CCN) for the subject area, Call: 512-239-6960

Certificate of Convenience and Necessity (CCN)

For preliminary guidance, contact City of Fort Worth Water Department Development Division, Call: 817-392-8428

IV. Attachments

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CONSTRUCTION SPECIFICATION

SECTION 32 31 00 – ORNAMENTAL WELDED FENCING SYSTEM

Montage II® - Heavy Industrial Weight

PART 1 - GENERAL

1.01 WORK INCLUDED

The contractor shall provide all labor, materials and appurtenances necessary for installation of the welded ornamental steel fence system defined herein at (specify project site).

1.02 RELATED WORK

Section ____ - Earthwork

Section ____ - Concrete

1.03 SYSTEM DESCRIPTION

The manufacturer shall supply a total fence system of Montage II ATF® Welded Ornamental Steel (Classic™) basis of design. The system shall include all components (i.e., panels, posts, gates and hardware) required. Must meet the performance specifications of system with "Buy American" required. Alternates must be also be LEED qualified and approval of alternates upon architects approval. 20 year manufacturer warranty by a manufacturing company in business at least 10 years. No field welding, riveted or retaining rod (internal fasteners) products allowed.

1.04 QUALITY ASSURANCE

The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.05 REFERENCES

ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus. ASTM D523 - Test Method for Specular Gloss. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact). ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.

1.06 SUBMITTAL

The manufacturer's literature shall be submitted prior to installation.

1.07 PRODUCT HANDLING AND STORAGE

Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

PART 2 - MATERIALS

2.01 MANUFACTURER

The basis of design fence system shall conform to Montage II ATF® Welded Ornamental Steel, (Classic™) design, extended picket bottom rail treatment, ~~3-Rail~~ style manufactured by Ameristar Fence Products, Inc., in Tulsa, Oklahoma. Please contact Chris Babb with questions at (918) 906-7242). Alternates must meet as indicated in 1.03 system description.

2.02 MATERIAL

A. Steel material for fence panels and posts shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (344 MPa) and a minimum zinc (hot-dip galvanized) coating weight of 0.90 oz/ft² (276 g/m²), Coating Designation G-90.

B. Material for pickets shall be 1" square x 14 Ga. tubing. The rails shall be steel channel, 1.75" x 1.75" x .105". Picket holes in the rail shall be spaced 4.715" o.c. For fence systems up to and including 6 feet tall, posts shall be a minimum of 2-1/2" square x 12 Ga. For fence systems 7 feet tall and 8' tall, posts shall be a minimum of 3" square x 12 Ga. Gate posts shall meet the minimum requirements of Table 1.

2.03 FABRICATION

A. Pickets, rails and posts shall be pre-cut to specified lengths. Rails shall be pre-punched to accept pickets.

B. Pickets shall be inserted into the pre-punched holes in the rails and shall be aligned to standard spacing using a specially calibrated alignment fixture. The aligned pickets and rails shall be joined at each picket-to-rail intersection by Ameristar's proprietary fusion welding process, thus completing the rigid panel assembly (Note: The process produces a virtually seamless, spatter-free good-neighbor appearance, equally attractive from either side of the panel).

C. The manufactured panels shall be subjected to an inline electrodeposition coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The color shall be (specify Black or Bronze). The coated panels shall be capable of meeting the performance requirements for each quality characteristic shown in Table 2.

D. Gates shall be fabricated using welded ornamental panel material and gate ends having a 1-3/4" square cross-sectional size. All rail and upright intersections shall be joined by shop welding. All picket and rail intersections shall also be joined by shop welding prior to coating.

PART 3 - EXECUTION

3.01 PREPARATION

All new installation shall be laid out by the contractor in accordance with the construction plans.

3.02 INSTALLATION

Fence posts shall be set according to Table 3, plus or minus 1/2". Fence panels shall be attached to posts with brackets supplied by the manufacturer. Gate posts shall be spaced according to the gate openings specified in the construction plans. The "Earthwork" and "Concrete" sections of this specification shall govern post base material requirements.

3.03 CLEANING

The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.

Table 1 – Minimum Sizes for Montage II Posts (Please check requirements)			
<u>Fence Posts</u>	<u>Panel Height</u>		
2-1/2" x 12 Ga.	Up to & Including 6' Height		
3" x 12 Ga.	Over 6' Up to & Including 8' Height		
<u>Gate Leaf</u>	<u>Gate Height</u>		
	<u>Up to & Including 4'</u>	<u>Over 4' Up to & Including 6'</u>	<u>Over 6' Up to & Including 8'</u>
Up to 4'	2-1/2" x 12 Ga.	3" x 12 Ga.	3" x 12 Ga.
4'1" to 6'	3" x 12Ga.	4" x 11 Ga.	4" x 11 Ga.

6'1" to 8'	3" x 12 Ga.	4" x 11 Ga.	6" x 3/16"
8'1" to 10'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
10'1" to 12'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
12'1" to 14'	4" x 11 Ga.	6" x 3/16"	6" x 3/16"
14'1" to 16'	6" x 3/16"	6" x 3/16"	6" x 3/16"

Table 2 – Coating Performance Requirements

<u>Quality Characteristics</u>	<u>ASTM Test Method</u>	<u>Performance Requirements</u>
Adhesion	D3359 – Method B	Adhesion (Retention of Coating) over 90% of test area (Tape and knife test).
Corrosion Resistance	B117, D714 & D1654	Corrosion Resistance over 1,500 hours (Scribed per D1654; failure mode is accumulation of 1/8" coating loss from scribe or medium #8 blisters).
Impact Resistance	D2794	Impact Resistance over 60 inch lb. (Forward impact using 0.625" ball).
Weathering Resistance	D822 D2244, D523 (60° Method)	Weathering Resistance over 1,000 hours (Failure mode is 60% loss of gloss or color variance of more than 3 delta-E color units).

Table 3 – Montage II – Post Spacing By Bracket Type

Span	For INVINCIBLE® 8' Nominal (91-1/4" Rail)		For CLASSIC, GENESIS, & MAJESTIC 8' Nominal (92-5/8" Rail)					
	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"	2-1/2"	3"
Bracket Type	Industrial Flat Mount (BB301)		Industrial Universal (BB302)	Industrial Universal (BB303)	Industrial Flat Mount (BB301)		Industrial Swivel (BB304)*	
Post Settings	94-1/2"	95"	96"	96-1/2"	96"	96-1/2"	*96"	*96-1/2"



± ½" O.C.							
<p>*Note: When using BB304 swivel brackets on either or both ends of a panel installation, care must be taken to ensure the spacing between post and adjoining pickets meets applicable codes. This will require trimming one or both ends of the panel.</p>							