

### **1.1 Scope of Work**

A. The Contractor shall furnish all labor, materials, equipment, and supervision necessary to construct fencing and all other accessories, in accordance with specifications, drawings, and requirements provided by the County.

B. The Contractor shall be required to secure underground locates where required before beginning any project and any damage to underground utilities will be the responsibility of the contractor.

C. Total bid price shall include all materials, labor, supervision, equipment, freight and insurance required for installation of fencing as per specifications and requirements. Any permits required for any project in accordance with this invitation to bid shall be the responsibility of the vendor/contractor to obtain.

D. The Contractor shall schedule any and all inspections required.

E. Warranty: All work performed by the Contractor, under the resulting Agreement, shall be warranted by the Contractor to be free from defects for a period of not less than one (1) year. The Contractor shall promptly correct work rejected by the County Project Manager as failing to conform to the requirements of the scope of work for each project. The Contractor shall bear the cost of correcting such rejected work. Recurring problems, which the County Project Manager determines to be directly attributable to the work of the Contractor, shall be remedied by the Contractor at no additional expense to the County, and may result in termination of the contract for default.

1. All parts, materials and equipment installed by the Contractor shall be new and shall have full manufacturer's warranty in place. Said warranty shall be fully transferable to the County.

2. Any damages to County property caused by the Contractor's personnel while performing work under the contract, shall be fully repaired or replaced at the Contractor's expense.

F. Inspections: The County Project Manager, or a designee, shall inspect all work performed under the contract. Any inspection by the County shall not relieve the Contractor from any responsibility regarding defective parts, equipment or service.

G. Clean up: The Contractor shall be responsible for removing all debris from the site, cleaning the affected areas and disposing of all debris. The Contractor shall keep the site free of debris and unusable materials resulting from their work on a daily basis, or upon request by the County's Project Manager or designee. The Contractor shall leave or restore all affected areas as they were prior to beginning work.

H. Protection of County Property: The Contractor shall take care to perform services in such a manner that it does not damage County property. In the event that such damage occurs, the Contractor shall replace or repair the same, at no additional cost to the County. If the damage caused by the Contractor has to be repaired or property replaced by the County, the cost of such repairs or replacement shall be deducted from the Contractor's invoice.

I. Protection of Equipment and Materials: It shall be the sole responsibility of the Contractor to safeguard their own materials, tools, and equipment. The County shall not assume any responsibility for vandalism and/or theft of materials, tools and/or equipment. The Contractor shall obtain the permission of the County's Project Manager or designee regarding any needed storage of materials, parts and/or equipment. Such storage shall be done in such a manner as not to interfere with the County's daily operations. The County does not accept responsibility for losses of material or equipment or damage to same regardless of approval to store in any of the County's facilities or grounds.

J. All materials and installation requirements shall meet Florida Chapter International Fence Industry Association's Florida Fencing standards.

K. All materials furnished by vendor shall be free of wear, dents, rust corrosion, breaks, bends, cracks and all other defects.

L. The Contractor shall work directly with County Project Manager, or designee, for each individual project performed in accordance with this Invitation to Bid.

M. Completion of new installation shall be within three (3) weeks of permit and/or notice-to-proceed being issued. Repair work shall begin within 48 hours of notification and be completed within two (2) weeks. Special circumstances shall be handled on an individual basis with the County Project Manager.

N. Daytona Beach International Airport (DAB)

1. When necessary, the Contractor shall respond within three (3) hours due to the nature of fencing needs at DAB. The Federal Aviation Administration (FAA) and Transportation Security Administration (TSA) have mandated strict standards for enforcement if a breach should occur.

2. Emergency responses shall be required twenty-four (24) hours a day, 365 days a year, regardless of weather conditions.

a. Should severe or hazardous weather pose an immediate threat to the Contractor's staff, employees, personnel, or Sub Contractors, they shall be on stand-by with all necessary materials for repair to respond once the severe or hazardous weather has passed.

b. No work shall be performed under the following conditions:

i. Lighting within five (5) miles of the work location;

ii. Winds exceeding 35 kts (knots) / 40 Miles per hour (mph);

iii. A declared severe thunderstorm warning;

iv. A declared tornado watch or warning;

v. A declared hurricane warning

O. When necessary, the Contractor shall respond within three (3) hours to any departments or divisions requiring emergency response. The Contractor shall have on hand all parts and supplies necessary to make needed repairs.

P. Contractor(s) shall carry a complete inventory of parts available for purchase. There will be occasions when it is deemed in our best interest to have County employees perform repairs.

Q. Permitting fees shall not be included in the bid prices. The Contractor shall be responsible for obtaining any required permits and will be allowed to add the cost of any permits to their invoice. Documentation of the price of the permit shall be submitted with the invoice.

## **1.2 Technical Specifications**

### **A. Chain Link Fencing Requirements**

1. Concrete shall be 2500 PSI compressive strength at twenty eight (28) days, using ¾" maximum size aggregate. Concrete shall conform to the requirements of ASTM C94 except that site mixed concrete 2000 PSI will be acceptable. Grout shall consist of one part Portland cement to three parts clean, well-graded sand and the minimum amount of water required to produce a workable mix.

2. Chain link fabric shall be nine (9) gauge steel wire, two (2") inch mesh, with both top and bottom selvages knuckled. Furnish one-piece fabric widths for fencing up to twelve (12') feet high. Fabric shall be galvanized, ASTM A3902, Class I, with not less than 1.2 oz. zinc per square foot of surface.

3. Pipe framework shall be standard weight (ASTM A120, Schedule 40 and Federal Specification RR-F-191/3), "hot dipped" galvanized steel pipe, internally and externally, with not less than 1.6 oz. zinc per square foot of surface.

4. End, corner and pull post shall be a minimum of 2.375 O.D. steel pipe 3.65 lbs. per linear foot. All backstop uprights shall be 2.875" O.D. steel pipe, 5.79 lbs. per linear foot.

5. Lie post shall be a minimum of 1.900" O.D. steel pipe, 2.72 lbs. per linear foot.

6. Gate posts shall be 2.875 O.D. steel pipe, 5.79 lbs. per linear foot for leaf widths up to 6 feet and 4.000" steel pipe, 9.11 lbs. per linear foot for leaf widths over 6 feet and less than 13 feet.

7. Top, mid and bottom rails shall be 1.66" O.D. steel pipe, 2.27 lbs. per linear foot.

#### 8. Accessories

a. Post tops and loop caps shall be galvanized pressed steel tops or heavy malleable iron with not less than 1.2 oz. zinc per square foot of surface. The base of top shall extend not less than two (2") inches below the tops of the posts and shall exclude moisture. Loop caps shall be provided with hole suitable for the through passage of the top rail.

b. Tension wire shall be seven (7) gauge coated coil spring metal wire, finished to match fabric and located at bottom of all fabric except at backstop.

c. Wire ties shall be gauge soft annealed galvanized steel or nine (9) gauge aluminum wire attached to top, mid or bottom rails twenty four (24") inches O.C. and to line posts not more than fifteen (15") inches O.C.

d. Wire ties for attaching fabric to tension wire shall be twelve (12) gauge annealed galvanized steel or aluminum wire at twenty-four (24") inches O.C.

e. Stretcher bars shall be one piece lengths equal to full height of fabric with a minimum cross section of 3/16" x 5/8". Provide one stretcher bar for each gate and end post, and two for each corner and pull posts.

f. Stretcher bar bands shall be pressed steel or malleable iron, fourteen (14) gauge spaced not over fifteen (15") inches O.C. with top and bottom being as close to the end of the stretcher bar as possible.

#### 9. Gates

a. Framework for all gates shall be galvanized steel of the sizes as indicated on the drawings and the finish shall match the fence frame. Gates shall be assembled by welding or with special fittings and rivets for rigid connections.

b. Fabric shall be same as for fence and attached with stretcher bars at vertical edges. Attach stretcher bars to gate frame at no more than fifteen (15") O.C. Install diagonal cross bracing consisting of 3/8" O.D. adjustable length truss rod on gates over 6 feet wide to ensure frame rigidity without sag or twist.

c. Gate hardware: provide hardware and accessories for each gate, galvanized per ASTM A153, and in accordance with the following:

- i. Hinges: size and material to suit gate size, non-liftoff type, offset to permit 180° gate opening
- ii. Fabric: shall be of the same material specified for the fence
- iii. Track rail: shall meet or exceed 1 5/8" O.D. ASTM 120 Schedule 40 galvanized pipe sufficiently long enough to provide for full opening capacity
- iv. Gate rollers & axles: shall be constructed of pressed steel sized to provide smooth and definite contact with track
- v. Trolley: each leaf shall be supported on the leading edge with a double wheel trolley constructed of heavy duty rubber wheels adjustable with roller bearings
- vi. Track clamps: shall be constructed of pressed steel, sized to receive 1 5/8" O.D. track (two per each support post)
- vii. Support posts: shall be 2.375" O.D. at 3.65 lbs. per linear foot on 7'0" centers, maximum
- viii. Barbed wire: shall be provided upon request
- ix. NOTE: All corners shall be notched, welded and treated with zinc base compound or malleable fittings to be used.

#### 10. Roll or Slide Gate

##### a. THRU 20' –0 SINGLE LEAF

- b. Frame: All pipe members shall be of 1 5/8" O.D. pipe SS20 or approved equal galvanized weight 1.775# per linear foot. The frame shall be braced or trussed to prevent sag.
- c. Fabric: Shall be of the same material specified for the fence.
- d. Track rail: shall be of 1 5/8" o.d. ASTM 120 Schedule 40 galvanized pipe sufficiently long enough to provide for full opening capacity.
- e. Gate rollers & axels: shall be constructed of pressed steel sized to provide smooth and definite contact with track.
- f. Trolley: each leaf shall be supported on the leading edge with a double wheel trolley constructed of heavy-duty rubber tired wheels adjustable with roller bearings.
- g. Track clamps: shall be constructed of pressed steel sized to receive 1 5/8" O.D. track – two per each support post.

h. Support posts: shall be 2 ½" O.D. post set on 7'-0 centers, maximum (2.375) or approved equal.

i. Corners shall be notched, welded, and treated with a zinc base compound or malleable fittings to be used.

11. Installation of chain link fencing specifications:

a. Contractor shall not begin installation and erection before final grading is completed, unless otherwise permitted.

b. Contractor shall drill or hand excavate (using post hole digger) holes for posts to diameters and spacing indicated, in firm, undisturbed or compacted soil.

c. Contractor shall place concrete around posts in a continuous pour and shall tamp for consolidation. Contractor shall check each post for vertical and top alignment. Contractor shall trowel finish tops of footing, and slope or form a minimum of 24 hours before attaching framework and 72 hours before any other work is completed.

d. Contractor shall run top rail continuously through post caps, bending to radius for curved runs. Contractor shall provide expansion couplings as recommended by fencing manufacturer.

e. Contractor shall provide center rails where indicated. Contractor shall install in one piece between posts and flush with post fabric side, using special offset fittings where necessary.

f. Contractor shall install braces so posts are plumb when diagonal rod is under proper tension.

g. Contractor shall fasten fabric to tension wire using 12 gauge galvanized steel hog rings spaced twenty-four (24") inches O.C.

h. Contractor shall leave approximately 1" between finish grade and bottom selvage, unless otherwise indicated. Contractor shall pull fabric taut and tie to posts, rails and tension wires. Contractor shall install fabric on the ball field side of fence, except at the outfield radius, and anchor to framework so that fabric remains in tension after pulling force is released.

i. Contractor shall thread through or clamp stretcher bars to fabric four (4") O.C. and secure to posts, rails, and tension wires.

j. Contractor shall install gates plumb, level and secure for full opening without interference. Contractor shall install ground-set items in concrete for anchorage. Contractor shall adjust hardware for smooth operation and lubricate where necessary.

k. Contractor shall use U-shaped tie wires, conforming to diameter of pipe to which attached, clasping pipe and fabric firmly with ends twisted at least two (2) full turns. Contractor shall bend ends of wire to minimize hazard to persons or clothing. Contractor shall tie fabric to rails and braces, with wire ties spaced 24" O.C. Contractor shall tie fabric to tension wires, with hog rings spaced 24" O.C.

l. Contractor shall install nuts for tension bands and hardware bolts on side of fence opposite fabric side. Contractor shall peen ends of bolts or score threads to prevent removal of nuts.

m. All waste fencing materials and other foreign matter shall be cleared from the site and all areas left neat and clean.

n. All intermediate line posts shall not exceed ten (10') feet apart, plumb, in line and placed in a vertical position. All posts shall be set in concrete, six (6") inches in diameter hole with a hole depth of twenty one (21") inches.

o. All end, corner, and gateposts shall be set plumb and placed in a vertical position. Posts are to be set in concrete four (4x) times the diameter of the post to a hole depth of thirty three (33") inches. Any change in direction of fifteen (15°) degrees at corner post shall be set, to change the direction with an independent stretch.

p. Concrete shall be 2500 PSI (unless otherwise stated) for posts. Post may protrude three (3") inches below the base of the concrete to allow dissipation of condensation.

q. The diameter of holes for posts shall be four times (4x) the pole outside diameter.

r. Fence height of eight (8') feet and ten (10') feet shall have line posts of two and one half (2 ½") inches. Corner and terminal posts shall have three (3") inches diameter.