SECTION 32 31 00

FENCES AND GATES - CUSTOMIZABLE PRIVACY METAL FENCE SYSTEM

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\*\* NOTE TO SPECIFIER \*\* FenceTrac; Residential and Commercial Trac Fencing.
This section is based on the products of FenceTrac, which is located at:
22 N. Garnett Rd.
Tulsa, OK 74116
Tel: 918-794-8722
Email: [request info (info@fencetrac.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=FenceTrac&coid=53244&rep=&fax=&message=RE:%20Spec%20Question%20(02820fnc):%20%20&mf=)
Web: <https://www.fencetrac.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos53/arc53244.html) ] for additional information.
FenceTrac Fence Systems is based in Tulsa, Oklahoma and is the manufacturer of a modern fencing system designed to solve common problems associated with traditional fences.
We sell our patented systems direct to fence contractors, General Contractors, Design Build and DIY homeowners.
The FenceTrac system opens up a world of design possibilities for residential and commercial property owners. Here are SIX reasons you will love our product:
Reason #1 - FenceTrac provides an unlimited array of options for looks, style and design.
Reason #2 - FenceTrac has a much longer lifespan (with lower lifetime cost) than traditional wood or vinyl fencing.
Reason #3 - FenceTrac creates a stronger fence that provides more privacy and more security.
Reason #4 - FenceTrac looks fantastic in both residential and commercial properties.
Reason #5 - FenceTrac enhances the aesthetic appeal and value of your property.
Reason #6 - FenceTrac is easy to assemble, easy to maintain and easy to customize.
We offer the FenceTrac system as a complete kit (including infill, posts, etc.) or as individual components for your specific requirements.
FenceTrac Components Include:
FenceTrac Rail Kits (top, bottom, side rails)
FenceTrac Vertical H-TRAC
FenceTrac Steel Fence Posts
FenceTrac Swing Gates
Residential & Commercial Gate Hinges
Residential & Commercial Gate Latches
Red Cedar Wood Boards (interlocking tongue & groove)
LuxeCore Composite Boards (interlocking tongue & groove)
Vinyl Boards (interlocking tongue & groove)
Assembly Fasteners & Hardware

1. GENERAL
	1. SECTION INCLUDES
		1. Customizable privacy metal fence systems.
	2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 31 20 00 - Earth Moving.
		2. Section 03 30 00 - Cast-in-Place Concrete.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):"
			1. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy Coated (Galvannealed) by the Hot-Dip Process.
			2. ASTM B117 - Practice for Operating Salt-Spray (Fog) Apparatus.
			3. ASTM D523 - Test Method for Specular Gloss.
			4. ASTM D714 - Test Method for Evaluating Degree of Blistering in Paint.
			5. ASTM D822 - Practice for Conducting Tests on Paint and Related Coatings and Materials using Filtered Open-Flame Carbon-Arc Light and Water Exposure Apparatus.
			6. ASTM D1654 - Test Method for Evaluation of Painted or Coated Specimens Subjected to Corrosive Environments.
			7. ASTM D2244 - Test Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates.
			8. ASTM D2794 - Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact).
			9. ASTM D3359 - Test Method for Measuring Adhesion by Tape Test.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Preparation instructions and recommendations.
			3. Storage and handling requirements and recommendations.
			4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum of five years documented experience.
		2. Installer Qualifications: Company specializing in performing Work of this section. Provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.
		3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
			1. The intent of mock-up is to demonstrate quality of workmanship and visual appearance.
			2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
			3. Retain mock-up during construction as a standard for comparison with completed work.
			4. Do not alter or remove mock-up until work is completed or removal is authorized.
	1. PRE-INSTALLATION CONFERENCE
		1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
	2. DELIVERY, STORAGE, AND HANDLING
		1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
			1. Upon receipt at the job site, all materials shall be checked to ensure that no damages occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage.
		2. Protect from damage due to weather, excessive temperature, theft, and construction operations.
	3. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
	4. WARRANTY
		1. Manufacturer's standard limited warranty unless indicated otherwise.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: FenceTrac, which is located at: 22 N. Garnett Rd.; Tulsa, OK 74116; Tel: 918-794-8722; Email: [request info (info@fencetrac.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=FenceTrac&coid=53244&rep=&fax=&message=RE:%20Spec%20Question%20(02820fnc):%20%20&mf=); Web: <https://www.fencetrac.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.
	1. CUSTOMIZABLE PRIVACY METAL FENCE SYSTEMS
		1. System Description: The manufacturer shall supply a steel framework Trac system design manufactured by FenceTrac Fence Systems. The system shall include all components (i.e., all necessary Trac components, posts, gates, and hardware) required. Privacy filler materials will be supplied by (specify manufacturer or distributor of specific filler option).
		2. Basis of Design: The FenceTrac System, as manufactured and supplied by FenceTrac.

\*\* NOTE TO SPECIFIER \*\* Delete basis of design option not required.

* + - 1. Standard FenceTrac: Designed to be used with a variety of infill material placed vertically or horizontally.
			2. Fencetrac + H-TRAC: Incorporates vertical steel channels between pickets to add more strength and a different look.
		1. Top Trac: Large Lipped U-Channel Rail. Rolled profile for added durability and strength.

\*\* NOTE TO SPECIFIER \*\* Delete length option not required.

* + - 1. Length: 72 inches (1929 mm).
			2. Length: 96 inches (2438 mm).
		1. Bottom Trac: Large Lipped U-Channel Rail. Rolled profile for added durability and strength.

\*\* NOTE TO SPECIFIER \*\* Delete length option not required.

* + - 1. Length: 72 inches (1929 mm).
			2. Length: 96 inches (2438 mm).
		1. Post Trac: Adjustable trac mount system allows multi-point connection of fence panel to post.

\*\* NOTE TO SPECIFIER \*\* Delete length options not required.

* + - 1. Length: 48 inches (1219 mm).
			2. Length: 72 inches (1929 mm).
			3. Length: 96 inches (2438 mm).
		1. 45 Degree Trac:

\*\* NOTE TO SPECIFIER \*\* Delete length options not required.

* + - 1. Length: 48 inches (1219 mm).
			2. Length: 72 inches (1929 mm).
			3. Length: 96 inches (2438 mm).
		1. Posts with Caps:

\*\* NOTE TO SPECIFIER \*\* Delete post and caps options not required.

* + - 1. 2.5 x 2.5 inches (64 x 64 mm). Length: 84 inches (2134 mm). Wall Thickness: 14 ga.
			2. 2.5 x 2.5 inches (64 x 64 mm). Length: 108 inches (2743 mm) . Wall Thickness: 14 ga.
			3. 3.0 x 3.0 inches (76 x 76 mm). Length: 108 inches (2743 mm) . Wall Thickness: 12 ga.
			4. 3.0 x 3.0 inches (76 x 76 mm). Length: 144 inches (3658 x 3658 mm). Wall Thickness: 12 ga.
			5. 4.0 x 4.0 inches (102 x 102 mm). Length: 144 inches (3658 x 3658 mm). Wall Thickness: 12 ga.
		1. Pressed Caps:

\*\* NOTE TO SPECIFIER \*\* Delete flat cap options not required.

* + - 1. 2.5 x 2.5 inch (64 x 64 mm) Flat Cap.
			2. 3.0 x 3.0 inch (76 x 76 mm) Flat Cap.
			3. 4.0 x 4.0 inch (102 x 102 mm) Flat Cap.
		1. Walk-Through Gates:

\*\* NOTE TO SPECIFIER \*\* Delete gate options not required.

* + - 1. (H x OTO): 48 x 48 inches (1219 x 1219 mm).
			2. (H x OTO): 48 x 72 inches (1219 x 1929 mm).
			3. (H x OTO): 72 x 48 inches (1929 mm 1219 mm).
			4. (H x OTO): 72 x 72 inches (1929 x 1929 mm).
			5. (H x OTO): 96 x 48 inches (2438 x 1219 mm).
			6. (H x OTO): 96 x 72 inches (2438 x 1929 mm).
		1. Gate Hardware:

\*\* NOTE TO SPECIFIER \*\* Delete hardware options not required.

* + - 1. Hinge; Heavy Duty Residential: 2 inches (51 mm).
			2. Latch; Heavy Duty Residential: 2 inches (51 mm).
			3. Hinge Set; Commercial Duty Hinge Set: 600 lbs limit.
			4. Drop Rods; Residential / Commercial: Rod Diameter: 5/8 inches. Length: 48 inches (1219 mm).
			5. Drop Rods; Commercial: Rod Diameter: 1 inch (24 mm). Length: 48 inches (1219 mm)
			6. Latch: 1 inch (25 mm) Commercial Side Bolt.
			7. Keyless Mechanical Lock and Adaptor.
			8. Bar Latch Set; Commercial Duty
		1. Fence Materials:
			1. Steel material for fence framework, when galvanized prior to forming, shall conform to the requirements of ASTM A924/A924M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.90 oz per sq ft (275 g per sq m), Coating Designation G-90.
			2. Steel material for posts, when galvanized prior to forming, shall conform to the requirements of ASTM A924/A924M, with a minimum yield strength of 45,000 psi (310 Mpa). The steel shall be hot-dip galvanized to meet the requirements of ASTM A653/A653M with a minimum zinc coating weight of 0.60 oz/ft2(183 g/m2), Coating Designation G-60.
			3. Material for the Top and Bottom Tracs shall be 18 Ga. steel. Material for the Post Mount and Vertical-H Tracs shall be 18 Ga. steel. The cross-sectional shape of the rails shall conform to the manufacturer's roll-formed U-channel design. Fence posts and gate posts shall meet the minimum size requirements of Table 1.

\*\* NOTE TO SPECIFIER \*\* Customer-supplied infill offers unlimited fence design possibilities. FenceTrac works great paired with corrugated metal, welded wire mesh, metal screen, composite boards, bamboo, hardie board, metal slats, wood slats, vinyl or nearly any other rigid material under 1 inch thick. Delete options not required.

* + 1. Infill Materials:

\*\* NOTE TO SPECIFIER \*\* Delete infill options not required.

* + - 1. Picket: 6-ft (1929 mm) length composite. Tongue and groove. Profile: 1 x 5-7/8 inches (25 x 149 mm).
				1. Color: Black Onyx, Harbor Gray, Timber Brown, and Tropical Teak.
			2. Picket: 6-ft (1929 mm) length cedar. Tongue and groove. Profile: 7/8 x 5-1/2 inches (22 x 140 mm).
				1. Color: Natural.
			3. Picket: 8-ft (2438 mm) length cedar. Tongue and groove. Profile: 7/8 x 5-1/2 inches(22 x 140 mm).
				1. Color: Natural.
			4. Picket: 6-ft (1929 mm) length vinyl. Tongue and groove. Profile: 7/8 x 11.3 inches (11 x 287 mm).
				1. Color: Aged Cedar, Natural Cedar, Chestnut Brown, Redwood, Weathered Cedar, and more.
			5. Picket: 8-ft (2438 mm) length vinyl. Tongue and groove. Profile: 7/8 x 11.3 inches (11 x 287 mm).
				1. Color: Aged Cedar, Natural Cedar, Chestnut Brown, Redwood, Weathered Cedar, and more.
			6. LuxCore: a cellular PVC fence panel encased in ASA (acrylic-styrene- acrylonitrile), a highly weather- resistant resin that provides more strength and resilience than most other resins. The product is wood-free but gives a natural wood look. Resists fading, staining, and scratching. 20-year structural guarantee.
				1. Structural Core: Aluminum 6063-T5.
				2. Panel Body Composition: Cellular PVC.
				3. Outer Encasement: ASA (acrylic-Styrene-acrylonitrile). A highly weather-resistant resin that provides more strength and resilience than most other resins.
				4. Board Dimensions (L x W x Thick): 71-1/2 x 6 x 1 inches (1816 x 152 x 25 mm).
				5. Board Weight: 10 lbs.

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: Harbor Gray.
				2. Color: Tropical Teak.
				3. Color: Timber Brown.
				4. Color: Black Onyx.
		1. Fabrication:
			1. All fence framework shall be pre-cut to specified lengths. The Post Mount Tracs shall be pre-drilled for attachment to the posts. The framework shall be capable of meeting the performance requirements for each quality characteristic specified.
			2. The manufactured steel framework and posts shall be subjected to a multi-stage pretreatment cleaning and coating process. Starting with the pre-rinse and wash process for good adhesion, followed by oven drying in preparation for powder coat application, then adding an electrostatic spray application of a thermosetting Polyester-TGIC powder coat finish. The total coating shall be a minimum thickness of 3 mils (0.0762 mm).

\*\* NOTE TO SPECIFIER \*\* Delete color options not required.

* + - * 1. Color: Black.
				2. Color: Bronze.
				3. Color: White.
				4. Color: Silver.
			1. Completed sections shall be capable of supporting appropriate wind speeds according to ASCE 7-05 for Commercial/Industrial designed systems only. Residential applications will vary and wind speed testing can be calculated for an additional cost if necessary. Panels without special ornamentation or custom additions on top shall be biasable up to a 45 percent change in grade.
		1. Coating Performance Requirements:
			1. Adhesion per ASTM D3359 - Method B: Adhesion (Retention of Coating) over 90 percent of test area (Tape and knife test).
			2. Corrosion Resistance per ASTM B117, ASTM D714, and ASTM D1654: Corrosion Resistance minimum 1,000 hours (Scribed per ASTM D1654; failure mode is accumulation of 1/8 inch coating loss from scribe or medium No. 8 blisters).
			3. Impact Resistance per ASTM D2794: Impact Resistance over 60 inch lb. (Forward impact using 0.625 inch ball).
			4. Weathering Resistance per ASTM D822, ASTM D2244, and ASTM D523 (60 degree Method): Weathering Resistance over 1,000 hours (Failure mode is 60 percent loss of gloss or color variance of more than 3 delta-E color units).
1. EXECUTION
	1. EXAMINATION
		1. Do not begin installation until the substrates have been properly constructed and prepared.
		2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
	2. PREPARATION
		1. Clean surfaces thoroughly prior to installation.
		2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
		3. All new installation shall be laid out by the contractor in accordance with the construction plans.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
		2. Fence Installation:
			1. Fence Posts: Spaced according to FenceTrac installation instructions or Submittal drawings.
				1. For installations that must be raked to follow sloping grades, the post spacing dimension must be measured along the grade.
				2. Posts Setting: Posts are to be set in concrete footers having a minimum depth of 36 inches (914 mm) unless local authorities having jurisdiction require a greater depth.

Refer to the appropriate specifications in Division 02 - Concrete and Division 31 - Earthwork for governing requirements of concrete footers.

Posts Setting by Other Methods: Plated posts or grouted core-drilled footers are permissible if shown by engineering analysis to be sufficient in strength for the intended application.

Alternative Materials on Posts: Are also possible with the FenceTrac system. A, additional contact may be necessary to complete special post installations.

* + - 1. Fence Sections: Attached to posts with manufacturer supplied self-tapping screws.
		1. Gate Sections:
			1. Gate Posts: Space according to Manufacturers' gate drawings, dependent on standard out-to-out gate leaf dimensions and gate hardware selected.
			2. Gate Hinges: Type and quantity is to be based on the application; weight, height, and number of gate cycles.
			3. Gate Hardware: Provided by gate manufacture. Installed per manufacturer's recommendations.
				1. Manufacturers' Gate Drawings: Identify gate hardware required for the application.
	1. FIELD QUALITY CONTROL
		1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection, or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
	1. CLEANING AND PROTECTION
		1. Clean products in accordance with the manufacturers recommendations.
			1. The contractor shall clean the jobsite of excess materials; post-hole excavations shall be scattered uniformly away from posts.
		2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION