E.S. Fox Limited Structural Steel and Bridge Division



COMPANY CONTACT

E.S. Fox Limited — Structural Steel and Bridges www.esfox.com 905-354-3700

HEAD OFFICE

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SERVICES

- ENGINEERING
- FABRICATION
- CONSTRUCTION
- NUCLEAR
- STRUCTURAL STEEL
- BRIDGES
- TECHNICAL SERVICES



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E.S. Fox Limited

CORPORATE OVERVIEW

Since 1934, E.S. Fox Limited (ESFL) has set the standard for safety and quality in the fabrication and construction industry. ESFL is a privately owned, Canadian, multi-trade company, providing a single source for Industrial, Institutional, Commercial, and Energy projects. With over 3.5 million direct-hire person-hours last year, we self-perform Structural Steel Fabrication and Erection, Mechanical, Electrical, Sheet Metal, HVAC, Refrigeration, Millwright / Rigging, and Boiler Making.

The strength of our company stems from the vast experience of its people, the integration of a variety of skilled trades, and dedication to total control of construction through computerized planning and monitoring techniques.

ESFL has established a reputation for high quality workmanship, operational flexibility, efficiency, and timely project completion.

CONSTRUCTION CAPABILITIES

As a fully integrated, multi-trade construction firm, E.S. Fox Limited provides clients with a single source solution for their detail engineering, fabrication, construction, and maintenance needs. We are a solutions based provider that delivers a superior level of service from "cradle-to-grave," as we offer multi-trade, service oriented solutions for all your ICI and Energy projects.

FABRICATION CAPABILITIES

E.S. Fox Limited is proud to operate three state-of-the-art fabrication facilities across Ontario. At our main fabrication facility in Port Robinson, we offer over 83,000 square feet of production space. We work to the highest standards to produce Pipe Spools, Modules, Cryogenic Cold Boxes, and Pressure Vessels. With over 800 weld procedures and 40 quality certifications including nuclear, E.S. Fox Limited continues to be a leader and a symbol of Canadian strength and tradition in the supply of Quality Fabrication Services for the Industrial, Commercial, Institutional, and Energy markets for over eight decades.



E.S. Fox Limited Environmental Health and Safety

SAFETY CULTURE

At ESFL, employee safety, protection of the environment, and work quality are the main focus of our safety culture. Both management and employees work together in an effort to further advance knowledge of safety and incident prevention. Together we work to ensure a safe work environment for all. Our employees believe in the fundamental principle that safety is everyone's responsibility.

One of our core values is to "Prevent the Event." Incident prevention is the integral part of every job, with the safety and well-being of each individual the <u>number one priority</u>.

SAFETY PROGRAM KEY ELEMENTS

- Corporate Safety Manual
- Site Specific Safety Plans
- Orientation and Training
- Incident Investigation
- Lessons Learned Bulletins
- Job Safety Analysis
- Workplace Inspections
- Senior Management Review

- Safety First Attitude
- Trending and Analysis
- Setting Objectives and Targets
- Safety Workshops
- Mentoring Program
- J.H.S.C.
- Strong Communication
- Accountable Supervision
- Safety Meetings







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E.S. Fox Limited Affiliations







Professional Engineers Ontario











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E.S. Fox Limited Quality Assurance



E.S. Fox Limited - Safety and Quality Assurance Certifications

ISO

- ISO 9001:2015
- ISO 14001
- ISO 45001



CWB

- Structural Steel CWB W47.1 Div. 1
- Structural Aluminum CWB W47.2 Div. 1



CSA

- CSA N285.0 Nuclear Class 1, 2, 3, & 4
 Parts, Components & Support
- CSA N285.0 Nuclear Material Supply Ferrous and Non-Ferrous (3 Locations)
- CSA N286-12 Nuclear
- CSA N299.1 2016
- CSA B51 Boiler, Pressure Vessels & Pressure Piping & Repairs
- CSA B51 Category A, B, C, E & H Type Welded Non-Welded Fittings
- CSA B51 Hot Tap & Line Stopping
- CSA B52 Mechanical Refrigeration Code
- CSA Z7396. 1-17 Medical Gas Pipeline Systems Part 1

ASME

- ASME Section III, Division 1: N, NPT, NA, NS
- ASME Section VIII, Division 1 & 2 Pressure Vessels
- ASME U, U2, S, & PP Stamps
- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B31.5 Refrigeration Piping
- National Board Registration for ASME Section I, III, VIII



COR

• COR and Infrastructure Health and Safety Association Certification





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E.S. Fox Limited Locations & Facilities

Head Office: Niagara Falls, ON —250,000 square feet

Branch Location	Capabilities		Square Footage
Darlington, ON	Construction		
Hamilton, ON	Construction	Fabrication	10,000 sq. ft.
Kingston, ON	Construction	Fabrication	17,000 sq. ft.
Port Robinson, ON		Fabrication	83,000 sq. ft.
Thunder Bay, ON	Construction	Fabrication	5,000 sq. ft.
Tiverton (Kincardine), ON	Construction		
Vaughan (Toronto), ON	Construction		
Oshawa, ON	Construction		
Sarnia, ON	Construction		
		Total Fabrication	115,000 sq. ft.



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ENGINEERING CAPABILITIES

E.S. Fox Limited has extensive engineering experience relating to quality programs such as ISO 9001, CSA N299/Z299, and CSA M285.0/MCA-4000; ranging from conventional piping to Class 1 Nuclear components. Our Engineering team's commitment and goal is not just to complete the project on time, but also to add value to your project in the most efficient manner possible.

E.S. Fox Limited Engineering provides the following services but not limited to:

- Design Engineering
- Virtual Construction
- Total Station Services
- CAD Services
- Welding, Manufacturing, and Metallurgical Engineering



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FABRICATION SERVICES

At our main fabrication facility in Port Robinson, Ontario, we offer over 83,000 square feet of production space. We work to the highest standards required to produce Cryogenic Cold Boxes, Pipe Spools, Modules, and Pressure Vessels. With more than 800 weld procedures, we fabricate:

Modules and Vessels

- Process Modules and Equipment Skids
- Cryogenic Air Distillation Columns for: Oxygen, Nitrogen, and Argon
- Air Liquefaction / Separation
- Hydrogen Purification
- Catalyst Reclamation
- Oil / Water Purification

Pipe Fabrication

- Stand alone contracts & support of field projects and other fabrication projects
- Area of expertise is high alloy materials: Stainless Steel, Aluminum, Titanium, Chrome-Moly
- Carbon Steel up to 84" Diameter
- Victaulic—Roll Grooved Piping up to 48" Dia.
- Jacketed Pipe



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We provide the following Construction Services:

- Construction Management
- Piping
- Electrical
- Structural Steel
- Ironworking
- Millwrighting
- Boiler Making

- Sheet Metal
- HVAC
- Instrumentation & Controls
- Operating Engineering
- Insulation
- Carpentry
- Refrigeration



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NUCLEAR SERVICES

E.S. Fox Limited is a people-first, environmentally conscious, socially responsible EPC provider in the Nuclear sector with every aspect of its development. E.S. Fox Limited's Nuclear Services contributed millions of hours in support of Ontario's safe and reliable Nuclear power industry. We provide our clients with a streamlined solution for their detailed engineering, fabrication, construction, and maintenance needs. As the Nuclear power generation sector evolves from large Nuclear reactors to Small Modular Reactors, we are primed to support the transition.

We provide the following Nuclear Services:

- Safety & Quality Control
- Nuclear Fabrication
- Project Management
- Engineering, Procurement, & Construction (EPC)
- Indigenous Relations



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STRUCTURAL STEEL AND BRIDGE DIVISION

E.S. Fox Limited's Structural Steel & Bridge Division operates as a fabrication and erection service provider throughout Canada. With our highly skilled team of erectors and supervision, E.S. Fox Limited has distinguished itself through our dedication to quality and excellence in all phases of Structural Steel construction. From Commercial and Industrial projects to Bridges and Roller Coasters, E.S. Fox Limited continues to be an industry leader focused on organizational excellence through principles such as Safety, Quality, and Service.

We provide the following Structural Steel and Bridge Services:

- Architecturally Exposed Structural Steel
- Commercial and Industrial Steel
- Institutional Steel
- Bridges
- Themed Entertainment



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TECHNICAL SERVICES AND MAINTENANCE

ESFL's highly-qualified factory-trained technicians provide services on all types and brands of equipment encountered across all Industrial, Commercial, Institutional, and Energy markets. They are certified for specialized critical environments such as oil & gas (onshore, offshore, oil sands), nuclear, biopharmaceutical research, healthcare, data centres, museums, and art galleries.

ESFL offers maintenance agreements tailored to meet the specific needs of different systems and owner priorities.



WE OFFER SERVICES FOR:

- Installations
- Heating, Ventilation, & Air Conditioning
- Mechanical Repairs & Maintenance
- Refrigeration
- Technical Services Building Analysis
- Energy Retrofit Projects
- Savings & Incentives

From HVAC and Controls to Design-Build systems, ESFL offers a wide range of technical services.



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E.S. Fox Limited Structural Steel and Bridge Capabilities

STRUCTURAL STEEL AND BRIDGE DIVISION CAPABILITIES

ESFL is heavily involved in the fabrication and erection of standard industrial and commercial structural systems and bridge installations. We also take on a wide range of unique bridge projects that require a good measure of agility and ingenuity in order to meet owner's expectations. We are well-equipped and welcome opportunities to work on projects that involve:

- Fast track projects on logistically sensitive sites and locations
- Bridge Erections
- Bridge Rehabilitations
- High rise buildings
- Derrick work
- Work in occupied structures
- Existing building reinforcement
- Equipment installations
- Pre-engineered buildings
- Towers
- Emergency Repair

- Architecturally Exposed Structural Steel (AESS)
- Hoisting utilizing helicopter lifts
- Falsework / shoring required for unique erection sequences
- Field welding of various metals including stainless steel
- Road closures for cranes
- BIM project requirements
- Demolition
- Tower crane work—install, jacking, removals
- Field touch-up painting services



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Fort York Cycle and Pedestrian Bridge

Client HOCO Entertainment & Resorts

Scope This project included the preassembly on temporary shoring supports and erection of two separate stainless steel cable stay supported bridges, complete with precast

panels. Each 150 ton bridge is supported by one outward leaning arch.

Trades Ironworkers

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St. Lawrence Market North

Scope

Supply & install of structural steel and steel deck for the new five story St. Lawrence Market North building in the heart of downtown Toronto. Scope including erection of roughly 1700 tons of structural steel, a large portion of which being AESS.

Trades

Ironworkers

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Hunt Club Airport Parkway Pedestrian Bridge

Client Louis W. Bray Construction

Scope Orthotropic steel deck cable-stayed bridge built on E.S. Fox Limited falsework. Fully

field welded deck joints partially built over live traffic. Contract also included miscellaneous railings. This AESS project also required touch-up paint after install, and

field welding.

Trades Ironworkers

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Hilton - Casino — Pedestrian Bridge

Client OLG and Hilton

Our contact for this Architecturally Exposed Structural Steel pedestrian bridge

included the fabrication, off-site assembly, transportation, and the final installation. The structure was clad in glass and all connections and joints were highly visible. Special attention was required when handling and erecting to protect the painted finish. AESS

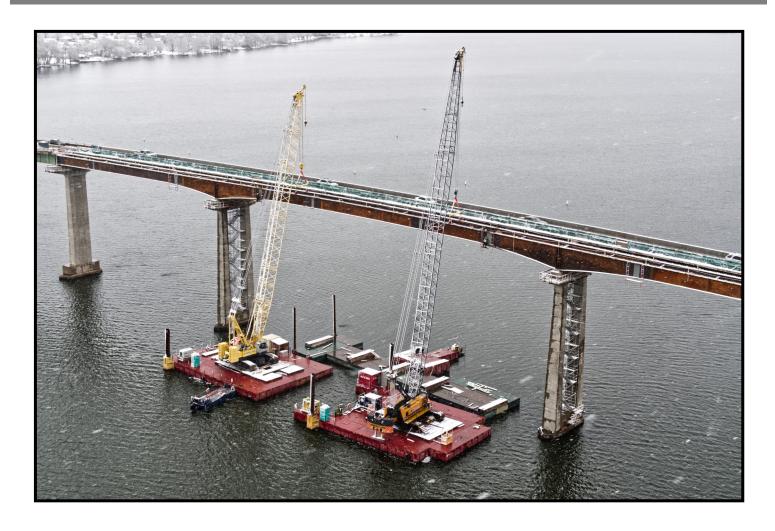
3 was required. A body-type filler was used over all welded joints.

Trades Ironworkers

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Bay of Quinte Skyway

Client MTO

Scope This contract is to replace the bridge deck over a seven year period, with rehabilitation

work to take place each year. This is mainly all barge work.

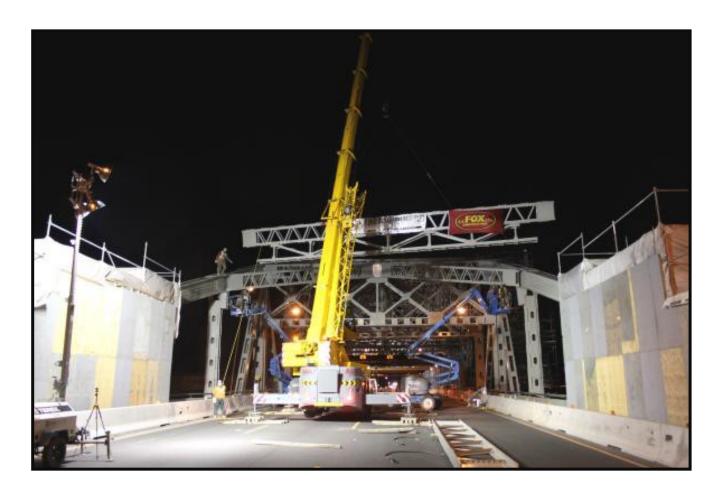
Trades Ironworkers

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Burlington Skyway—Emergency Rehabilitation

Client MTO

Scope E.S. Fox Limited was contracted directly by the Ministry of Transportation Ontario to repair the Burlington Skyway on an emergency basis after an accident occurred which

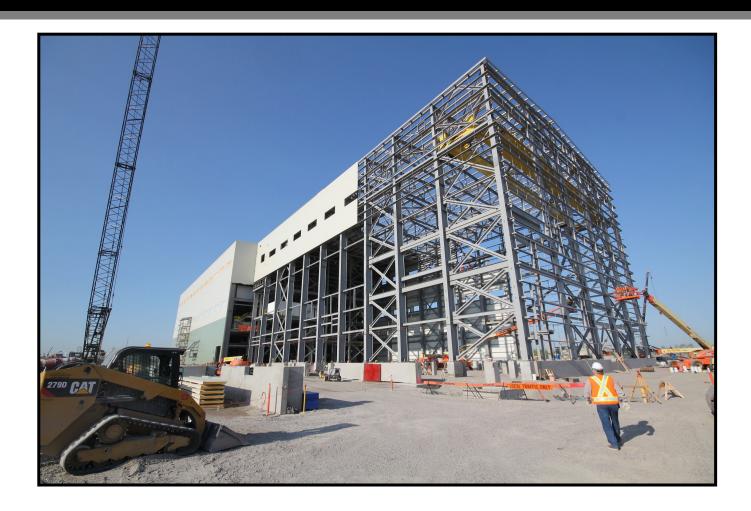
caused significant damage to the structure of the Skyway bridge.

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Rainy River Gold Mine MPEI Grinding Building—Structural

Client

New Gold Inc.

Scope

- Supply & Installation of Structural Steel and miscellaneous metals
- Cladding, Roofing, Metal Deck, Grouting, Windows, Man Doors, Overhead Doors
- 6,000 Tons of structure total
- Erection of (15) modules consisting of pre-fabricated Structural Steel frames complete with equipment, mechanical, and electrical services

Trades

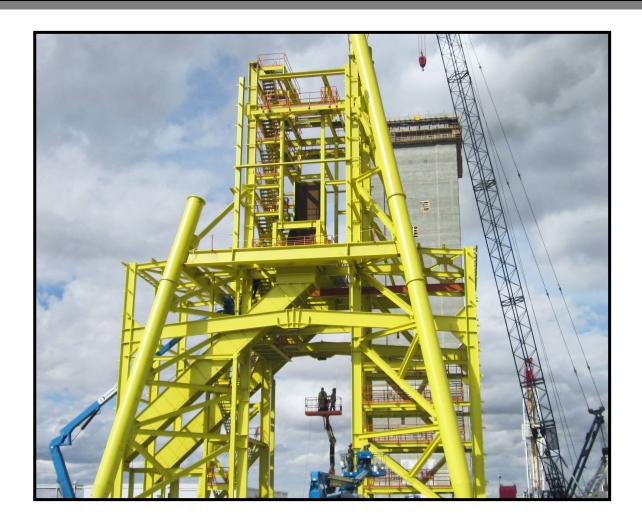
Ironworkers | Sheet Metal

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Mosaic Potash K3 Mine Site Production Headframe

Client

AMC Mining

Scope

Supply and erection of structural steelwork for a 200' tall tower including overhead cranes, chutes and setting of equipment and sheaves. This is a fully exposed structure in a semi-corrosive potash environment. This structure was a AESS cat. Touchup required after the structure was erected.

Trades

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SaskPower Boundary Dam Carbon Capture Project

Client SaskPower

Scope

Supply and erection of 2,400 tons of structural steel framing for a new industrial building. The contract also included cladding and reafing, as well as the metal dock

building. The contract also included cladding and roofing, as well as the metal deck and all equipment setting (over 200 pieces, including a 350 ton stripper vessel) and

setting of 20 modules.

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Hilton Hotel Niagara Redevelopment

Client

Hospitality Resorts Inc.

Scope

Under subcontract to Hospitality Resorts Inc., E.S. Fox Limited performed the mechnical scope of work for the Hilton Niagara Redevelopment Project. E.S. Fox Limited completed installation of all mechanical equipment, HVAC and piping systems (plumbing, heating or otherwise) including all associated controls within the new 53 storey tower expansion. The work encompassed more than 70,000 person-hours of labour.

Trades

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Embassy Suites—Elevator Shaft

Client Fallsview Group

E.S. Fox Limited added a new 48 storey, 500' high, 150 ton, high speed elevator shaft to the existing hotel while in operation. A crane was erected on the roof of the hotel, allowing pedestrian and existing operations to continue as normal without disturbance.

Trades Ironworkers

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NHS Health Care Complex & Walker Family Cancer Centre

Scope

Erection of approximately 1,600 tons of structural steel framing for various portions of the new health care facility. To meet a very tight schedule, E.S. Fox Limited erected around the clock with three tower cranes.

Trades Ironworkers

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Toronto Pearson International Airport Expansion

Client

Greater Toronto Airports Authority

Scope

- An 'airside' expansion to an existing and occupied terminal adjacent to live operations
- Reinforcing was also included at the Customs area on an off-shift
- The schedule was 1 year long with an overall tonnage on the project of 2,500 tons

Trades

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Yukon Striker Dive Coaster—Canada's Wonderland

Client Canada's Wonderland

Scope Erection of the world's fastest, largest, and tallest dive coaster. 3,625' of track, a 90 degree drop, 245' tall, travelling speed of 130km/hour. This project involved very

complex and unique scenarios.

Ironworkers **Trades**

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PORT ROBINSON **HAMILTON SARNIA** TORONTO



Niagara Skywheel

Client HOCO Entertainment & Resorts

Scope Installation of a 200' diameter ferris wheel complete with 42 gondolas. The work included a unique erection procedure to assemble and erect the legs, hub, spokes,

and wheel sections. This project was featured on the Discovery Channel, showcasing

the construction of the largest ferris wheel in Canada.

Trades Ironworkers

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