



Bridge Information

- **Project: Hardwick BF 037-3(8)** State Bridge Program
- Route: VT 16 \bullet
- Bridge: Br. 1
- **Built: 1950** \bullet
- Span: 82 ft. \bullet
- 6 36WF280 Rolled Beams
- 15 MC 18 x42.7 Channel Diaphragms
- Total Weight of Structural Steel: 142,000 lbs. (71 Tons)
- Total Surface Area Coated: 5300 Sq. ft.

Construction Duration

April 2021 – July 2021 **Total Construction Metalizing Operations** May 18 to June 7

Total Project Cost

	Estimated	Act
Preliminary Engineering	\$125,000	\$47
Right of Way	\$0	\$0
Construction	\$615,000	\$46
Constr. Engr.	\$92,250	\$13
Contingency Items	<u>\$80,000</u>	<u>\$0</u>
Total	\$912,250	\$64

Cost Comparison to Painting

<u>Major Items</u>		<u>Cost</u>
•	Removal and Disposal of Paint	\$212,192
•	Field Applied Metalizing	\$115,000
•	Field Painting (est.)	\$120,700

Field Metalizing of a Steel Beam Bridge

J. B. McCarthy, PE **Vermont Agency of Transportation – Structures Design Section**

3 Months 3 weeks

ctual 7,624

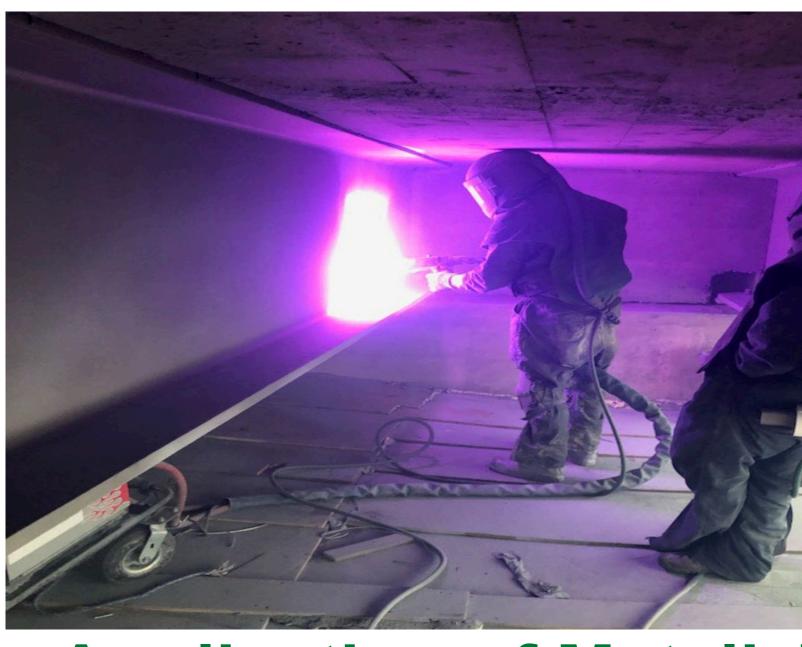
64,840 .32,073

\$644,537

<u>Cost/Ton</u> \$2,990 \$1,620

\$1,700

Installation of Staging



Application of Metalizing



Repairing Staging Hanger Locations



Construction Issues

- Using a larger zinc wire 3/16" vs 1/8" would increase production.
- Humidity is a major factor during metalizing and can be difficult to control in the field.
- **Clear sealer coating over metalizing left** streaks in final appearance.
- All adhesion tests, bend tests and coating thicknesses met specifications.



Streaks in Metalized Coating



Finished Product







