



To: SUPERSEDED BY EI 08-016 EFFECTIVE 9/4/08		New York State Department of Transportation ENGINEERING INSTRUCTION	EI 07-029
Title: ELIMINATION OF A588 STEEL FOR GUIDE RAIL DESIGN PROJECTS			
Distribution: <input checked="" type="checkbox"/> Manufacturers (18) <input checked="" type="checkbox"/> Local Govt. (31) <input checked="" type="checkbox"/> Agencies (32)	<input type="checkbox"/> Surveyors (33) <input checked="" type="checkbox"/> Consultants (34) <input checked="" type="checkbox"/> Contractors (39) <input type="checkbox"/> _____ ()	Approved:  R. A. Dennison, P.E., Chief Engineer	8/2/07 Date

ADMINISTRATIVE INFORMATION:

- Effective Date: This Engineering Instruction (EI) is effective beginning with projects submitted for the letting of January 10, 2008.
- Superseded Issuances and Disposition of Issued Materials: These changes supersede specific related portions of, and will eventually be reflected in, the *Standard Specifications*, the Highway Design Manual's Chapter 10 – *Roadside Design, Guide Rail, and Appurtenances*, and the *Guidelines for the Adirondack Park*.

PURPOSE: This Engineering Instruction announces the Department's decision to cease using A588 (rustic, Corten, "self-oxidizing", or "self-weathering") steel for highway guide railing and barriers. (This EI does not cover bridge rail. The 2002 Bridge Manual indicated that A588 bridge rail was no longer recommended.)

TECHNICAL INFORMATION:

- New Policy – Highway design projects shall discontinue use of A588 steel for highway guide rail or its components.
- Special Settings – Designers are to make selections of appropriate guide railing and barrier to be installed by employing the principles of sound engineering practice. The selected material should be compatible with the context within which the facility is located. Design decisions should consider the concerns of the people who use the facility and for whom the facility is part of their environment. Special types of material can be considered such as timber/steel combination rail, as well as special coatings of rail. (A subsequent EI on rail selection guidance is planned.)
- Actions – When spot repairs are made in existing runs of guide rail, galvanized parts should be used in galvanized runs of rail and A588 parts should be used in runs made of A588 steel.
- Cost Impact – Galvanized guide rail and rustic guide rail have nearly identical unit costs. From the perspective of required replacements, there will be no significant short-term cost difference. From the perspective of long-term costs, the added life expectancy for the galvanized rail should result in significant cost savings.
- Other Actions – Regions will need to develop action plans for the decommissioning of existing runs of rustic guide rail. Guidance on that process will be provided in subsequent issuances. The objective will be to remove all runs of rustic guide rail over the course of the next 10 years.

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IMPLEMENTATION:

- While this EI is effective for projects let on or after January 10, 2008, designers should strive to incorporate its guidance into projects with earlier letting dates.
- Disapproved Specification – All A588 guide rail items are disapproved. See Appendix for list.

BACKGROUND: A588 steel has not resisted corrosion as was initially expected when the product was first used for guide rail. Some localized moisture, salt, shade, and shelter conditions have resulted in A588 rail deteriorating significantly faster than at other locations. The Department has strived to replace deteriorated A588 rail when its deterioration becomes apparent, but it is often difficult to determine whether installed A588 rail is deteriorated and, if so, the degree of deterioration. To ensure that guide rail will function adequately over the long term, the Department has decided to eliminate the use of A588 steel for highway barrier systems.

VENDOR INFORMATION: While bare A588 guide rail and median barrier are no longer to be designed into projects, vendors with existing stocks of A588 steel will have the option of galvanizing existing stockpiles of A588 steel, provided it is not deteriorated. If this proves to be warranted, a subsequent EI will address the specification and payment for such material.

CONTACT: For further information or interpretation of this Engineering Instruction, contact Terry Hale at (518) 485-7009.

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Disapproved Rustic Guide Rail and Barrier Standard Items

606.0150	Cable Guide Railing Rustic Posts
606.0151	Cable Guide Railing with Extra Length Posts (Rustic Posts)
606.0250	Anchorage Units for Cable Guide Railing (Rustic Posts)
606.0251	Anchorage Units for Cable Guide Railing (Rustic Posts)
606.1050	Box Beam Guide Railing (Rustic)
606.105001	Box Beam Guide Railing (Rustic) (Shop Curved)
606.1051	Box Beam Guide Railing with Extra Long Posts (Rustic)
606.105101	Box Beam Guide Railing with Extra Long Posts (Rustic) (Shop Curved)
606.1150	Box Beam Median Barrier (Rustic)
606.115001	Box Beam Median Barrier (Rustic) (Shop Curved)
606.1251	Box Beam Guide Railing End Assembly Type I (Rustic)
606.1252	Box Beam Guide Railing End Assembly Type II (Rustic)
606.1253	Box Beam Guide Railing End Assembly Type III (Rustic)
606.1451	Box Beam Guide Railing End Assembly Type A (Rustic)
606.1452	Box Beam Guide Railing End Assembly Type B (Rustic)
606.1453	Box Beam Guide Railing End Assembly Type C (Rustic)
606.1650	Corrugated Beam Guide Railing (Rustic)
606.165001	Corrugated Beam Guide Railing (Rustic) (Shop Curved)
606.1651	Corrugated Beam Guide Railing with Extra Long Posts (Rustic)
606.165101	Corrugated Beam Guide Railing with Extra Long Posts (Rustic) (Shop Curved)
606.1750	Corrugated Beam Median Barrier (Rustic)
606.175001	Corrugated Beam Median Barrier (Rustic) (Shop Curved)
606.1850	Modified G2 Weak-Post, Corrugated Beam Guide Rail (Rustic)
606.185001	Modified G2 Weak-Post, Corrugated Beam Guide Rail (Rustic) (Shop Curved)
606.1851	Modified G2 Weak-Post, Corrugated Beam Guide Rail With Extra Long Posts (Rustic)
606.185101	Modified G2 Weak-Post, Corrugated Beam Guide Rail With Extra Long Posts (Rustic) (Shop Curved)
606.2250	Anchorage Units for Corrugated Beam Guide Railing (Rustic)
606.2350	Anchorage Units for Corrugated Beam Guide Railing (Driveways, Walkways, and Other Openings) (Rustic)
606.2450	Anchorage Units for Corrugated Beam Median Barrier (Rustic)
606.2550	Special Anchorage Units for Corrugated Beam Median Barrier (Rustic)
606.3250	Heavy Post Blocked-out Corrugated Beam Guide Railing (Rustic)
606.325001	Heavy Post Blocked-out Corrugated Beam Guide Railing (Rustic) (Shop Curved)
606.3251	Heavy Post Blocked-out Corrugated Beam Guide Railing With Extra Long Posts (Rustic)
606.325101	Heavy Post Blocked-out Corrugated Beam Guide Railing With Extra Long Posts (Rustic) (Shop Curved)
606.3350	Heavy Post Blocked-out Corrugated Beam Median Barrier (Rustic)
606.335001	Heavy Post Blocked-out Corrugated Beam Median Barrier (Rustic) (Shop Curved)
606.3450	Anchorage Unit for Heavy Post Blocked-out Corrugated Beam Guide Railing (Rustic)
606.3550	Anchorage Unit for Heavy Post Blocked-out Corrugated Beam Median Barrier (Rustic)
606.4802	I-Beam Posts for Existing Cable Guide Railing (Rustic Posts)
606.4804	Extra Long I-Beam Posts for Existing Cable Guide Railing (Rustic Posts)

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606.4806	I-Beam Posts for Existing Corrugated Beam Guide Railing (Rustic)
606.4808	Extra Long I-Beam Posts for Existing Corrugated Beam Guide Railing (Rustic)
606.4810	I-Beam Posts for Existing Box Beam Guide Railing (Rustic)
606.4812	Extra Long I-Beam Posts for Existing Box Beam Guide Railing (Rustic)
606.4814	I-Beam Posts for Existing Corrugated Beam Median Barrier (Rustic)
606.4816	Extra Long I-Beam Posts for Existing Box Beam Median Barrier (Rustic)
606.4818	I-Beam Posts for Existing Heavy Post Blocked-out Corrugated Beam Guide Railing (Rustic)
606.4820	Extra Long I-Beam Posts for Existing Heavy Post Blocked-out Corrugated Beam Guide Railing (Rustic)
606.4822	I-Beam Posts for Existing Heavy Post Blocked-out Corrugated Beam Median Barrier (Rustic)
606.4824	Extra Long I-Beam Posts for Existing Heavy Post Blocked-out Corrugated Beam Median Barrier (Rustic)
606.8151	Guide Rail Transition Weak-Post Corrugated Beam to Box Beam Guide Rail (One or Two-Way Operation) (Rustic)
606.8251	Guide Rail Transition Box Beam to Weak-Post Corrugated Beam Guide Rail (One-Way Only) (Rustic)
606.8350	Guide Rail Transition Cable to Box Beam (One or Two-Way Operation) (Rustic Posts and Box Beam)
606.8450	Guide Rail Transition Box Beam to Cable (One -Way Only) (Rustic Posts and Box Beam)
606.8551	Median Barrier Transition Weak Post Corrugated Beam to Box Beam (Rustic)
606.8755	HPBO Corrugated Median Barrier Transition to Single Slope Concrete Median Barrier (Rustic)
606.8756	HPBO Corrugated Median Barrier Transition to Jersey Shape Concrete Median Barrier (Rustic)
606.8757	Transition Between Concrete Half Section Barrier and HPBO Corrugated Beam Guide Railing (Rustic)
606.8853	Transition Between Box Beam Guide Rail and Single Slope Half Section Concrete Barrier (One or Two-Way Operation) (Rustic)
606.8854	Transition Between Single Slope Half Section Concrete Barrier and Box Beam Guide Rail (One Way – Trailing End of Barrier) (Rustic)
606.8855	Transition Between Box Beam Median Barrier and Single Slope Concrete Median Barrier (Rustic)
606.8950	Guide Rail Transition Box Beam to Heavy Post Blocked-Out Corrugated Beam (Rustic)
606.9651	Median Barrier Transition Weak-Post Corrugated Beam to Heavy Post Blocked-out Corrugated Beam (Rustic)

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Disapproved Rustic Guide Rail and Barrier Special Specification Items

606.3150 15	Median Barrier Redirective Gating End Terminal (Rustic)
606.32605015	Transition – Heavy Post Blocked Out Corrugated Beam Median Barrier (Rustic) – Concrete Barrier
606.32605016	Transition – Heavy Post Blocked Out Corrugated Beam Median Barrier (Rustic) – Concrete Barrier
606.32615015	Transition – Concrete Barrier to Corrugated Beam Guide Railing (Rustic)
606.3450 15	End Terminal for Heavy Post Blocked Out Corrugated Guide Rail, ET 2000+ Wood Posts (Rustic)
606.3451 15	End Terminal for HPBO Corrugated Beam Guide Railing, ET 2000+ Steel Posts (Rustic)
606.3550 15	End Terminal for HPBO Corrugated Guide Rail, SKT350 Wood Posts (Rustic)
606.3551 15	End Terminal for HPBO Corrugated Beam Guide Railing, SKT350 Steel Posts (Rustic)
606.3650 11	Optional End Terminal for HPBO Corrugated Guide Rail, ET 2000 or SKT 350 (Rustic)
606.3650 15	Optional End Terminal for HPBO Corrugated Guide Rail, ET 2000 or SKT 350, Wood Posts (Rustic)
606.3651 15	Optional End Terminal for HPBO Corrugated Guide Rail, ET 2000 or SKT 350, Steel Posts (Rustic)
606.4650 15	Crash-Cushion Attenuating Terminal 350, CAT 350 (Rustic)
606.88015008	Box Beam Guide Rail (Rustic) Transition to Concrete Barrier (One Way or Two Way Operation)
606.88025008	Box Beam Guide Rail (Rustic) Transition to Concrete Barrier (One Way – Trailing End)
606.9451 08	Pier Protection (One Way) (Rustic)
606.9452 08	Pier Protection (Two Way) (Rustic)