



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois/62764

January 3, 1994

Bridge Fabrication (Shop Plans and Inspection)

#94-1

COUNTY ENGINEERS/COUNTY SUPERINTENDENT OF HIGHWAYS  
CONSULTING ENGINEERS  
MUNICIPAL ENGINEERS

Gentlemen:

The Bureau of Local Roads and Streets has published its shop plan review and shop inspection policy in both the Administrative Policies (page 5-9-19) and Federal-Aid Procedures (page 5-9-24) manuals. Essentially, this policy states that: (1) if competent engineering personnel are available, the local agency may perform or cause to be performed the review of shop plans and/or shop fabrication inspection; or (2) the Department will perform either or both of these services depending on the availability and work load of the Bureau of Bridges and Structures (shop plan review, steel fabrication inspection) and the Bureau of Materials (prestressed concrete and elastomeric bearing fabrication inspection).

To expedite shop plan review, we recommend each local agency pursue option (1) above and utilize either their own qualified personnel or a consulting engineer to perform required shop plan reviews for the following structure types:

1. Simple span precast prestressed box-beam bridges and any of the structures' appurtenances, such as elastomeric bearings or special-design expansion joints.
2. Simple span steel w-beam and prestressed I-beam structures developed from standard plans and any appurtenances.
3. Continuous, multi-span precast prestressed I-beam structures.
4. Continuous, multi-span steel structures and simple span structures not included above.

If the local agency desires, the Bureau of Bridges and Structures (BBS) will review shop plans for the types of structures listed if immediate review is not necessary. To obtain this review, the local agency should forward two sets of shop plan prints to the BBS with a written request. Fabricators should be informed not to submit shop plans directly to the BBS. Such submittals will be returned to the local agency. Each proposal should contain a special provision informing the contractor where to send shop plans for review.

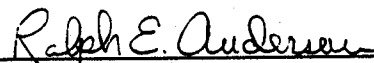
The attached December 10, 1991 BBS memo on shop plan review and fabrication inspection delineates items not requiring shop plan review and/or fabrication inspection on Department projects. Local agencies should consider adopting similar practices to expedite review and inspection.

The attached lists indicate the required distribution of the approved shop drawings. Local agencies that choose to review shop plans will also be responsible for this distribution.

This policy revision does not alter existing inspection practices. The Bureau of Materials will continue to make shop inspection of the fabrication of prestressed beams produced at the facilities listed on sheet (2) of the attachment and receiving normal plant inspections. The BBS will provide shop inspection for steel structures when the local agency requests this service and fabrication is done within its present inspection areas. However, inspections at steel fabricators outside of these areas will be the responsibility of the local agency.

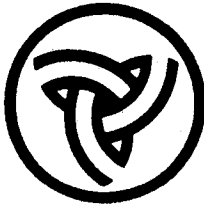
This letter and attachments supersede Circular Letters 83-9 & 88-1. Corrections for insertion in your Administrative Policies and Federal-Aid Procedures manuals will be sent to you when the next set of revisions are printed. If there are any questions regarding this matter, please contact Rich Mochel, Local Bridge Engineer.

Very truly yours,

  
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Ralph E. Anderson  
Engineer of Bridges and Structures

  
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W. T. Sunley  
Bureau of Local Roads and Streets

WRM/JJE/bb/policy



# Illinois Department of Transportation

## Memorandum

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To: All District Engineers, J. Gehler, E. J. Kehl,  
D. Wolaver, W. Sunley, R. Jones

From: Ralph E. Anderson By: Todd E. Ahrens

Subject: Shop Plan Review and Fabrication Inspection

Date: December 10, 1991

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Based on the results of an August survey of all District Engineers and previously established practices of the Bureau of Bridges, the following policies shall be utilized for shop plan review and fabrication inspection of the items cited.

1. Type S & T Bridge Rail: No shop plan review or shop fabrication inspection is required. The contractor shall furnish an erection diagram to the Resident Engineer and the Resident shall determine acceptability of the posts and railing.

Please note that steel tubing for traffic rail must have Charpy-Vee Notch (CVN) toughness values certified by tests results submitted to the district, and steel for rail and posts should be domestic. (This policy existed before the survey).

2. Neoprene Expansion Joints: All manufacturers should submit standards for preapproval, thereby eliminating shop plan review by IDOT on individual projects to save time. Contractor retains the responsibility for proper fit, installation and geometry, and must supply a copy of preapproved standard to the R.E. for field verification and inclusion in record drawings for the project.

For special, non-standard installations such as island medians, skew changes or partial replacements of dissimilar joints, shop drawings should be submitted.

The Bureau of Materials and Physical Research should continue to receive material samples.

3. P.J.S. Joints and Armor Bars or Angles: These joints are relatively simple and may be prefabricated in 10 to 20 foot lengths, allowing field cutting and assembly to fit project requirements. Since details will be generic, no shop plan review is required, but fabricators may optionally submit standard drawings for our confirmation. An erection scheme should be provided to the R.E. on jobs with complex geometry or multiple changes in cross slope.

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When fabricators are producing the steel bars or angles, the Bureau of Bridges shall be notified so our inspectors may verify the following: domestic material of proper grade; acceptable welding with approved procedures by qualified welders; adequate blast cleaning before painting; and proper application of an approved primer. Only one prime coat is needed and studs do not require paint.

If we do not have an available inspector, the R.E. will be notified and acceptance waived to the field. If not otherwise notified, the R.E. should require a photocopy of the BD 59 release covering the batch from which project material was taken.

The Bureau of Material and Physical Research (BM&PR) should continue to receive samples of the PJS.

4. Frame-Type Bicycle and Pedestrian Railing: The existing policy of not requiring shop plans or shop fabrication inspection shall continue, basing the R.E.'s final acceptance on proper fit and an overall visual inspection of the finished product. Please note that CVN testing is not required for tubing used in this railing. Paint used must be approved by the PM&PR. (This is a very labor-intensive item, both in the shop for cutting, fitting, welding, painting and preassembling, and also in the field for accurately positioning anchors and handling prefabricated panels. Due to the high cost, it should be limited to appropriate high-use urban areas.)
5. Aluminum Railing: Since most manufacturers utilize the geometry shown on the design plan standards, shop plan review shall be eliminated unless a producer wishes to submit a modified standard for preapproval.

The current policy of no shop inspection of the standard items will continue, with final acceptance waived to the R.E.

The contractor shall supply erection drawings to the R.E. for field verification of locations and dimensions. These drawings shall be included in the project record.

Current requirements of the BM&PR concerning aluminum rail shall not change.

All District Engineers, J. Gehler, E. J. Kehl  
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If you have questions on any of the above items or on other Bureau of Bridges' policies concerning shop drawing review of fabricated items and shop fabrication inspection of structural steel and overhead signs, please contact Jon Edwards at 217/782-3586.

We encourage your comments and suggestions on other ways to expedite construction while insuring consistently acceptable fabricated products.



JJE/bb  
0470B

**LOCAL BRIDGES  
DISTRIBUTION OF STRUCTURAL STEEL  
SHOP DRAWINGS**

<b>PRINTS SENT TO:</b>	<b>NUMBER OF PRINTS</b>
<b>District Engineer</b>	<b>1</b>
<b>Fabricator</b>	<b>1</b>
<b>Contractor</b>	<b>2</b>
<b>Local Agency</b>	<b>2</b>
<b>Bureau of Bridges and Structures *(only if BBS will provide shop fabr. inspection)</b>	<b>2</b>
<b>Total Prints</b>	<b>8</b>

\*Ralph Anderson, Engineer of Bridges & Structures  
Attn: Todd Ahrens  
Bureau of Bridges & Structures, IL DOT  
2300 S. Dirksen Parkway  
Springfield, IL 62764

INSPECTION DISTRICT: (Effective Date: January 3, 1994)

Fabrication at Price Brothers - Midwest (Rochelle)

- 1 set - Mr. William D. Ost Attn: Materials Engineer
- 1 set - Mr. Darrell Moss  
819 Jay Dee Avenue  
Dixon, Illinois 61021

Fabrication at Construction Products Corporation (Henderson, Kentucky)

- 1 set - Mr. Karl Bartelsmeyer Attn: Materials Engineer
- 1 set - Illinois DOT Inspector  
c/o Construction Products Corporation  
P. O. Box 598  
Henderson, Kentucky 42420

Fabrication at Construction Products Corporation (LaFayette, Indiana)

- 1 set - Dist. 5 Engineer Attn: Materials Engineer
- 1 set - Mr. William Kirk  
1444 Kenneth Drive  
Rantoul, Illinois 61866

Fabrication at LaBarge (Champaign)

- 1 set - Dist. 5 Engineer Attn: Materials Engineer
- 1 set - Mr. William Kirk  
1444 Kenneth Drive  
Rantoul, Illinois 61866

Fabrication at Prestress Engineering Corporation (Blackstone)

- 1 set - Mr. Ralph E. Dalton Attn: Materials Engineer
- 1 set - Mr. Bob Jacobs - c/o Prestress Engineering Corp.  
Blackstone, Illinois 61313

Fabrication at Stites Concrete Incorporated (Dexter, Missouri)

- 1 set - Mr. Karl Bartelsmeyer Attn: Materials Engineer
- 1 set - Illinois DOT Inspector  
c/o Stites Concrete, Inc.  
Box 32  
Dexter, Missouri 63841

Fabrication at Quinn Concrete Products (Marshall, Missouri)

- 2 sets - Mr. W. L. Trimm  
Division Engineer  
Materials & Research  
Jefferson City, Missouri 65101

Fabrication at Egyptian Concrete Company (Salem)

- 2 sets - Mr. M. R. Topel Attn: Materials Engineer

Fabrication at Construction Systems Inc. (Edwardsville)

- 2 sets - Mr. Dale L. Klohr Attn: Materials Engineer

WRM/bb/policy1

**LOCAL BRIDGES  
DISTRIBUTION OF PRESTRESSED BEAM  
SHOP DRAWINGS**

<b>PRINTS SENT TO:</b>	<b>NUMBER OF PRINTS</b>
<b>District Engineer (Where erection is located)</b>	<b>1</b>
<b>Contractor</b>	<b>1</b>
<b>Local Agency</b>	<b>2</b>
<b>J. G. Gehler: Engineer of Materials 126 East Ash Street Springfield, IL 62706</b>	<b>1</b>
<b>Inspection District (See Sh. 2)</b>	<b>2</b>
<b>Total Prints</b>	<b>7</b>



**LOCAL BRIDGES**  
**DISTRIBUTION OF ELASTOMERIC BEARINGS & EXPANSION JOINTS**  
**SHOP DRAWINGS**

<b>PRINTS SENT TO:</b>	<b>NUMBER OF PRINTS</b>
<b>District Engineer</b>	<b>1</b>
<b>Fabricator</b>	<b>1</b>
<b>Contractor</b>	<b>2</b>
<b>Local Agency</b>	<b>2</b>
<b>J. G. Gehler: Engineer of Materials 126 East Ash Street Springfield, IL 62706</b>	<b>1</b>
<b>Total Prints</b>	<b>7</b>