



## REVIEW NOTES

# ROCHESTER ER BRF 0162(18) – BRIDGE NO. 19 TEMPORARY TRAFFIC BARRIER DRAWINGS May 28, 2014

**RE:** Temporary Traffic Barrier Drawings received from Schultz Construction on 5/27/2014.

**VHB Project No.:** 57517.00

*These notes accompany the review of the Temporary Traffic Barrier Drawings reviewed by VHB on 5/27/2014.*

General Notes:

1. The cover letter from Schultz, dated May 27, 2014, references that “the barrier to the North will extend to the gravel pull off to meet the 1V:1H requirement”. This barrier transition should be 1V:4H as referenced in the original markups (also part of the submittal as referenced by Schultz). No further comments.

| <b>SUBMITTAL REVIEW</b>   |  |
|---|--|
| <input checked="" type="checkbox"/>   | Reviewed and approved but only for conformance to the Construction Contract Documents.   |
| <input type="checkbox"/>  | Revise and Resubmit  |
| <p>Corrections or comments made during this review do not relieve the Contractor or his Designer from compliance with professional requirements or for responsibility for the adequacy of the submittal information. This check is only for review of general conformance with industry standards and general compliance with the information given in the Contract Documents. VHB has not conducted a detailed review of the submittal and has not performed calculations or assessed the adequacy of loads, design criteria, quantities, dimensions, etc. Approval of the submittal does not constitute VHB's approval of any construction means, methods or techniques. These remain the responsibility of the Contractor.</p> |  |
|    | <p><b>Vanasse Hangen Brustlin, Inc.</b><br/>7056 US Route 7 • Post Office Box 120<br/>North Ferrisburgh, VT 05473<br/>802.425.7788</p> |
|   | <p>Job Number: <u>57517.00</u><br/>Reviewed By: <u>S.E. Burbank</u><br/>Date: <u>May 28, 2014</u></p>                                  |

This submittal review is for sheets 1-8, inclusive, of the “Barrier 5 27 14” submittal received on 5/27/2014.

Vermont Agency of Transportation

# RECEIVED

ON: **May 27, 2014**

and Checked for

# CONFORMANCE

BY: Jennifer Fitch DATE: 05/28/2014



# SCHULTZ

May 27, 2014

State of Vermont  
VTRANS Construction Section  
61 Valley View  
Rutland, VT 05701

Rochester ER BRF 0162(18)  
VT 73 Bridge # 19  
Re: Temporary Concrete Barrier

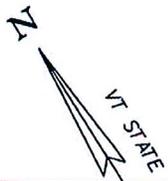
Attn: Christopher Williams, R.E.

Mr. Williams,

W.M. Schultz Construction Inc. (WMSCI) would like to request VTRANS to allow us to eliminate where required the use of Energy Absorption Impact Attenuators. WMSCI will extend and locate the end of our Temporary Concrete Barrier outside of the clear zone in our Traffic Control Plan as per the attached drawing. The barrier to the North will extend to the gravel pull off to meet the 1V:1H requirement as well as being set 14' from the edge line of travel. The barrier to the south will be set in such a manner as to terminate behind the temporary transition guide rail that will be coming from the north east corner of the temporary bridge. Concrete barrier supplied by WMSCI will meet the requirements of VTRANS specification section 621 for Temporary Concrete Barrier. The use of the barrier tapered past the clear zone removes the possibility of a direct head on collision with the blunt end and also maintains traffic in the designated path of travel. This allows us to have equipment access to the site by being able to efficiently open and then close the last piece of barrier. For existing field conditions if required barrier setup can and will be adjusted and modified as directed by the Resident Engineer. If you have any questions or require additional information please contact us.

Sincerely,  
W.M. Schultz Construction, Inc.

Michael D. Garn  
Asst. Project Manager



**LEGEND**

- TEMPORARY
- PORTABLE L (LIGHT TOW)
- FLOW OF TR
- TYPE III B
- TYPE III B
- ENERGY ABS
- TEMPORARY
- PCMS PORTABLE C (SEE BR 19 (3 OF 3))

Extend end of temporary traffic barrier north to the gravel pull-off and place 14' beyond the travel way (white line) with a side slope of 1V:4H or provide an energy absorption attenuator.

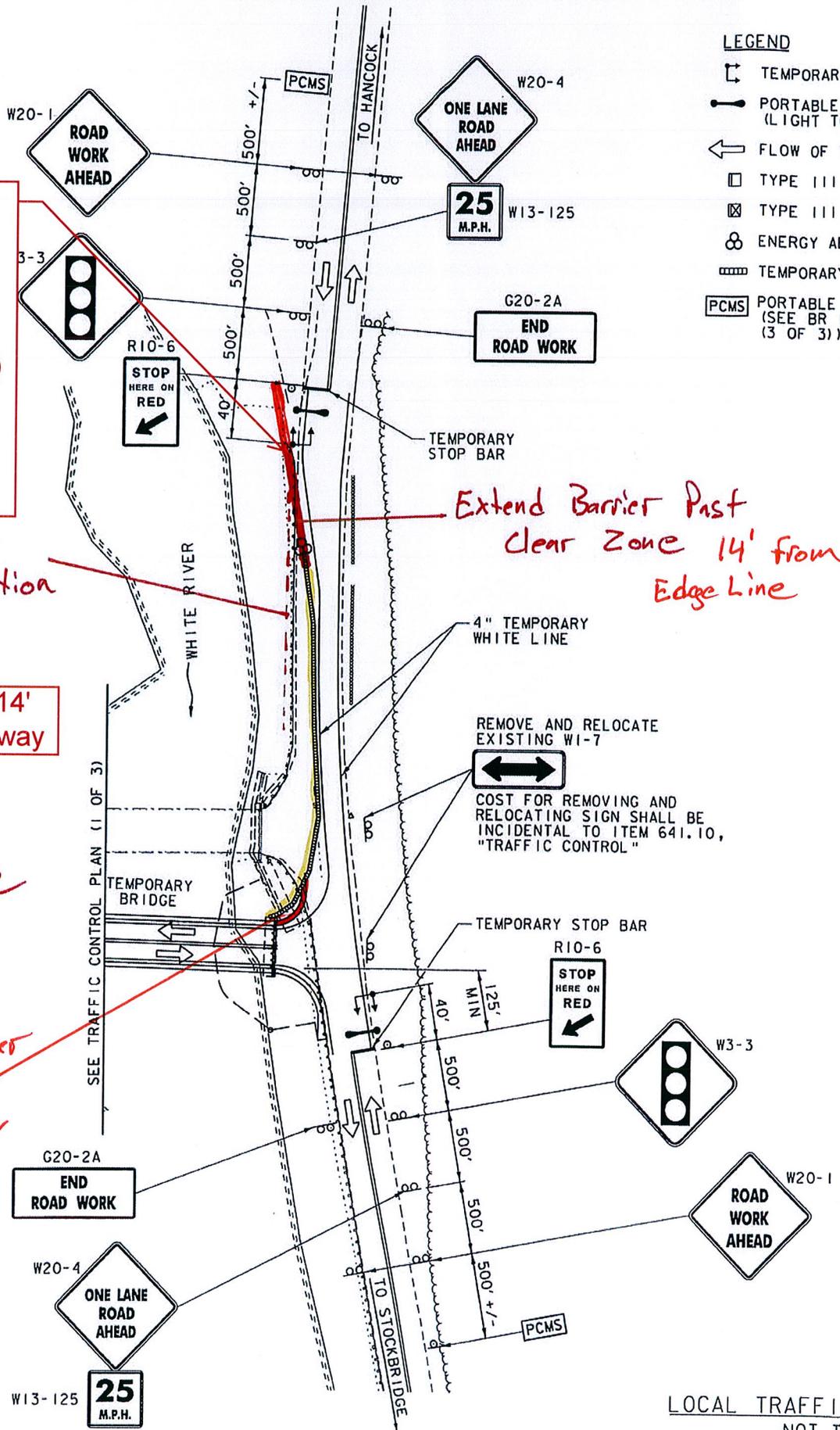
Approx. Clear Zone Location

Clear Zone is 14' beyond travel way

Not to Scale

South End Barrier to Be placed Behind Temporary Guide Rail Coming from The Temp. Bridge

Extend Barrier Past Clear Zone 14' from Edge Line



LOCAL TRAFFIC NOT TO

March 26, 1999

Refer to: HMHS-B52

Mr. John Dallain  
Vice-President  
EASI-SET INDUSTRIES  
Post Office Box 300  
Midland, Virginia 22728

Dear Mr. Dallain:

In your March 12 letter to Mr. Richard Powers of my staff, you requested the Federal Highway Administration's (FHWA) acceptance of your J-J Hooks temporary barrier connection when used with either a New Jersey or F-shape concrete barrier. To support your request, you sent copies of a Texas Transportation Institute report dated March 1999 entitled "NCHRP Report 350 Test 3-11 of the J-J Hooks Jersey Shape Portable Concrete Barrier", by Menges, Booth, Williams, and Schoeneman. You also sent us video tapes of the test that was run.

The barrier tested was a standard height (813 mm) New Jersey shape portable concrete barrier. Each segment was 3658-mm long and connected together by steel J-J hooks cast into each segment. These "hooks" were formed from 10-mm thick steel plates which were connected through the barrier by three No.16 ASTM A706 Grade 60 reinforcing bars. Additional reinforcement in the barrier consisted of welded wire fabric throughout its length. Design details are shown in Enclosure 1 for the New Jersey shape and in Enclosure 2 for the F-shape.

NCHRP Report 350 test 3-11 was run on a free-standing installation comprised of 16 connected segments totaling 58.56 m in length. The impact point was approximately 21.2 m from the upstream end or 1.2 m upstream from the joint between segment 7 and segment 8. Maximum deflection under this test set-up was reported as 1.3 m. The test vehicle was contained and redirected upright and all appropriate Report 350 evaluation criteria were met. Summary data from this test are shown in Enclosure 3.

Based on our review of the information you submitted, we find the J-J hook design to meet the requirements for an NCHRP Report 350 test level 3 (TL-3) barrier when used with 3658-mm long portable New Jersey shape concrete barriers or with an F-shape concrete barrier having the same base width (600 mm) as the tested New Jersey design. Since the J-J Hook design is

proprietary, its use on Federal-aid projects, except exempt projects not on the National Highway System, remains subject to the conditions listed in Title 23, Code of Federal Regulations, Section 635.411 when its use is specified by the contracting authority. Please do not hesitate to call Mr. Powers at (202) 366-1320 should you have any questions regarding this letter.

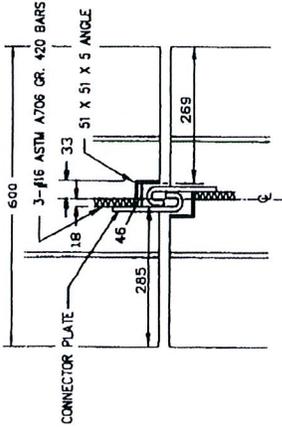
Sincerely yours,

(original signed by Dwight A. Horne)

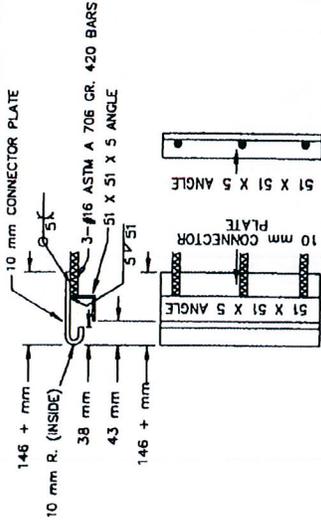
Dwight A. Horne  
Director, Office of Highway Safety Infrastructure

3 Enclosures





J-J HOOK DETAIL



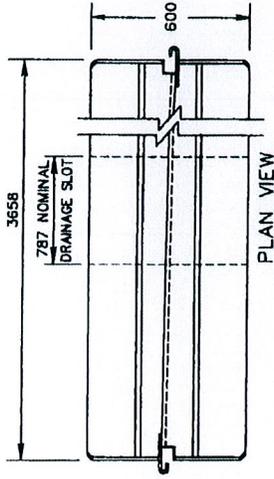
CONNECTOR PLATE DETAIL

J - J HOOK

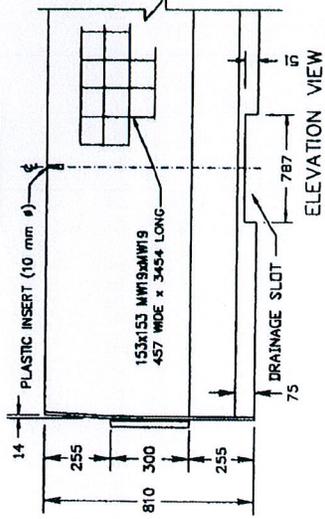
NOTES:

1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETERS.
2. CONCRETE STRENGTH = 5000 PSI (34 MPa) MIN.
3. ASTM A38 STEEL PLATE.
4. ASTM A185 W.W.F. FOR CONCRETE.
5. ASTM A706 GRADE 420 REBARS.
6. J-J HOOKS PATENTED DESIGN AS MANUFACTURED BY SMC, MIDLAND VA. OR OTHER AUTHORIZED EASI-SET<sup>TM</sup> MANUFACTURERS
7. J-J HOOKS TO BE NON-GALVANIZED FOR TEMPORARY LOCATIONS. J-J HOOKS TO BE GALVANIZED FOR PERMANENT LOCATION
8. BARRIER SHOWN IS NOT TO BE USED ON BRIDGE DECK.

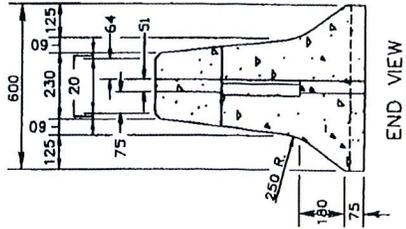
This information is proprietary to EASI-SET INDUSTRIES, and the information contained herein is not to be transmitted to any other organization unless specifically authorized in writing by EASI-SET INDUSTRIES. EASI-SET INDUSTRIES is an exclusive licensor in the UNITED STATES, and the furnishing of this drawing does not constitute an express or implied license



PLAN VIEW



ELEVATION VIEW



END VIEW

CONTRACTOR:

PROJECT NO.:

J-J HOOKS<sup>TM</sup> POSITIVE CONNECTION  
F-SHAPE DESIGN  
PORTABLE CONCRETE BARRIER

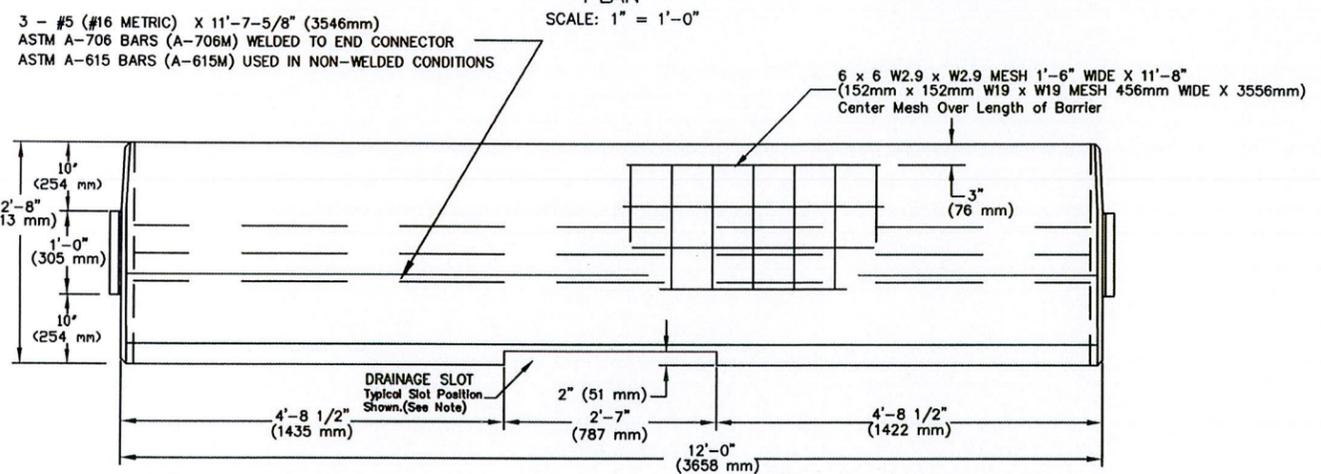
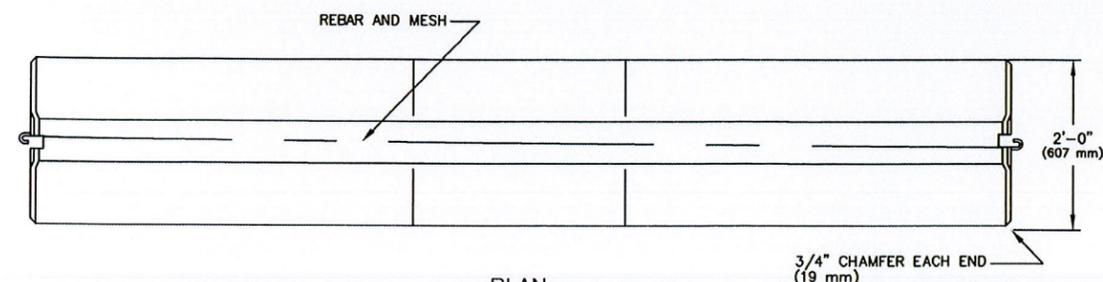
EASI-SET INDUSTRIES

| DATE | REVISION | INT. |
|------|----------|------|
|      |          |      |
|      |          |      |
|      |          |      |

DATE: 2-11-99

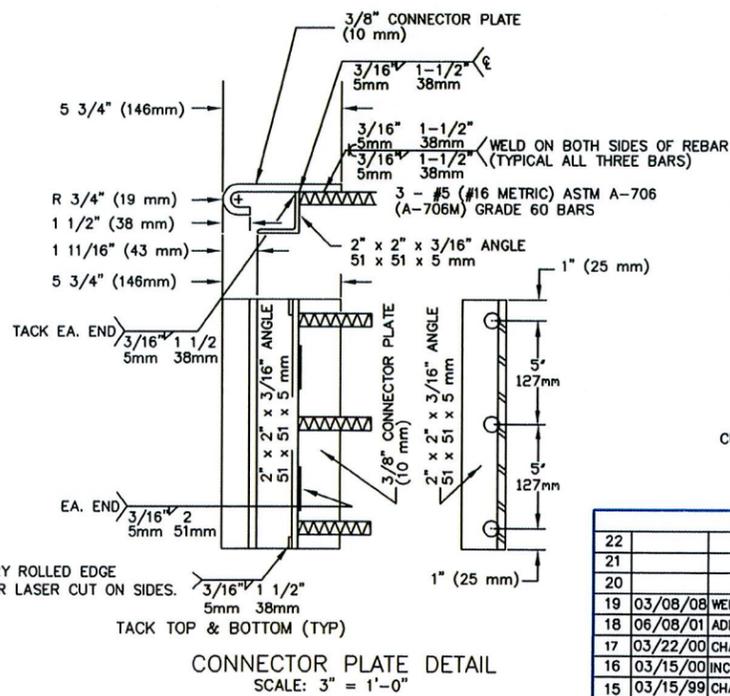
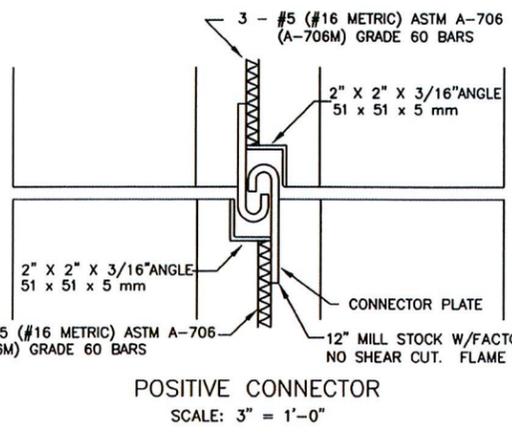
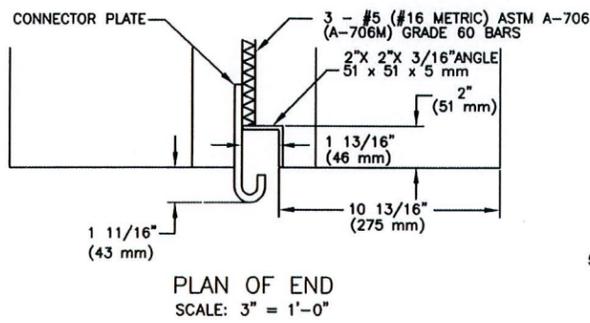
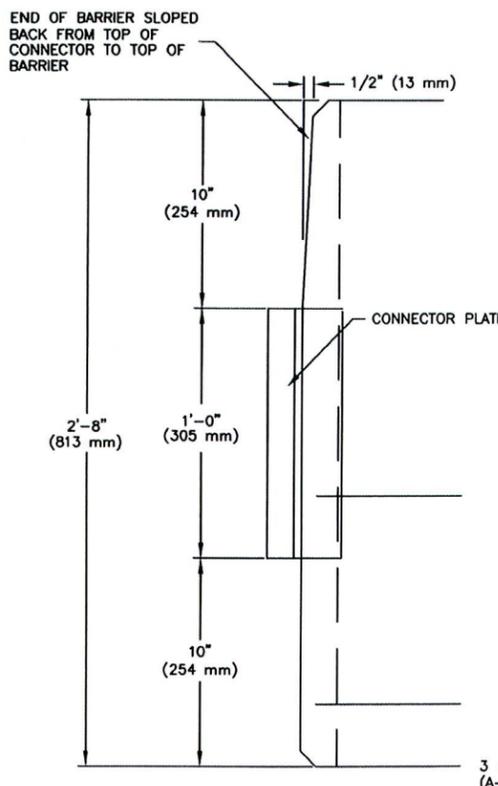
Sheet 1 of 1



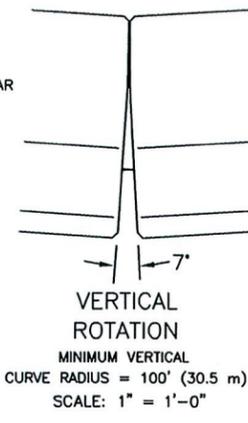
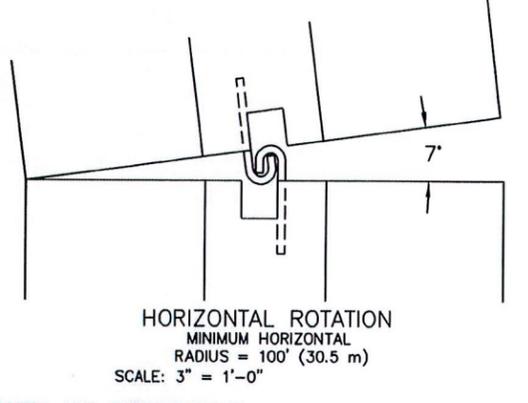
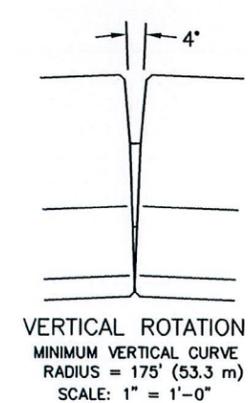
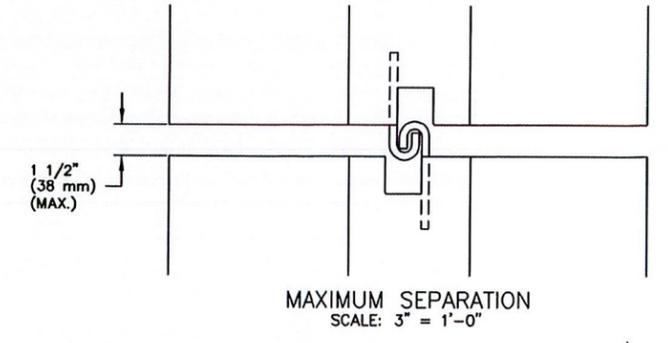
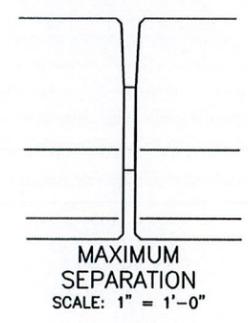
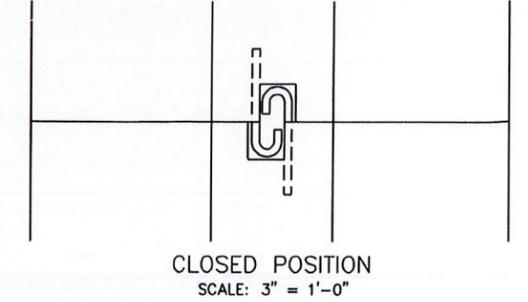
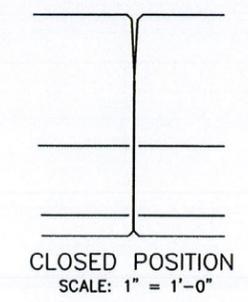


NOTE:  
Drainage slot and position at discretion of State DOT  
As are lifting devices and holes for lifting barrier.

NOTE:  
J-J Hooks Barrier approved by FHWA NCHRP 350 Test  
Level III for lengths 8 feet (2440mm) to 30 feet (9144mm).  
See your specific state for reinforcing details and barrier shape.



F.H.W.A. APPROVED FOR USE ON ALL FEDERAL-AID HIGHWAY PROJECTS.



GENERAL NOTES AND SPECIFICATIONS:

- MATERIALS: (MUST CONFORM WITH STATE MATERIAL SPECIFICATIONS.)
- CONCRETE: CLASS AA CONCRETE 3500 PSI 24MPa  
MINIMUM COMPRESSIVE STRENGTH IN 28 DAYS.
  - REINFORCING: ASTM A-706 (A-706M) GRADE 60 REBARS WELDED TO STEEL CONNECTOR PLATES, ASTM 615 REBAR IN NON-WELDED CONDITIONS.  
ASTM A-185 (A-185M) WELDED WIRE FABRIC
  - COVER: CRSI STANDARD IF NOT LISTED
  - STEEL: ASTM A-36 (A-36M) (PLAIN).
  - TOLERANCE:  
CONNECTOR LOCATION +/- 1/16" (1.6mm)  
WIDTH OF CONNECTOR @ B + 1/32" (0.8mm)  
CONNECTOR PLATE SIZE + 1/8" (3.2mm)  
BARRIER LENGTH + 1/4" (6.4mm)
  - WELDING:  
ALL WELDING TO BE IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) STRUCTURAL WELDING CODES
  - DESIGN:  
FHWA APPROVED SHAPE. J-J HOOKS IS ACCEPTED BY FHWA AS A CRASH TESTED AND OPERATIONAL DESIGN FOR USE ON ALL FEDERAL-AID HIGHWAY PROJECTS.
  - INSTALLATION:  
BARRIERS ARE SELF-ALIGNING WITH NO LOOSE HARDWARE.

| REVISIONS |   |
|-----------|---|
| 22        | 11 WELD SYMBOLS (6-21-94)   |
| 21        | 10 U.S. PATENT APPROVED (8-27-92)   |
| 20        | 9 MESH SIZE CORRECTED (8-27-92)   |
| 19        | 03/08/08 WELD SIZE MINIMUM ON A-706 REBAR 8 ADD METRIC DIM. (7-2-92)      |
| 18        | 06/08/01 ADD WELD NOTE/BOTH SIDES REBAR. 7 ADD SCALE TO DWG. (6-30-92)    |
| 17        | 03/22/00 CHANGED INSTALLATION NOTE 6 MODIFY "J" HOOK (4-22-92)            |
| 16        | 03/15/00 INCREASED CONNECTOR PL. WELD DIMS 5 REM. MORTAR GROOVE (4-22-92) |
| 15        | 03/15/99 CHANGED "MATERIALS" GENERAL NOTE 4 DEL. REV. 1 AND 2 (3-11-92)   |
| 14        | 12/11/98 ADD #5 (#16 METRIC) REBAR 3 TEXT REV. (2-10-92)                  |
| 13        | 12/11/98 REVISED METRIC REFERENCES 2 REV. MIN. HORIZONTAL ROTATION        |
| 12        | 12/11/98 MADE MISC. METRIC CONVERSIONS 1 ADD TAPER TO BOTTOM OF BARRIER   |

**Easi-Set Industries** Contact: Rick Groves, Est. 129  
6119 Callett Road  
MIDLAND, VA 22728 Supplier PHONE: 540-458-8911 FAX: 540-458-1832

**SMITH-MIDLAND COMPANY**  
P.O. Box 300  
MIDLAND, VA 22728 Manufacturer PHONE: 540-458-3266 FAX: 540-458-1832

POSITIVE CONNECTING BARRIER  
J-J HOOK DESIGN  
6" JERSEY SHAPE SWC02

Ref. No. MB7A-PC  
Last Rev. R-19  
3/08/08

DRAWN BY: MEL COPE, PE DATE: 10-10-90  
CHECKED BY: S.J.D. DATE: 2-13-91  
APPROVED BY: R. SMITH DATE: 2-26-91

SHEET 1/1