

March 17, 2004

Refer to: HSA-10/B-109B

Mr. Michael J. Burkett
Burkett Moulding, Incorporated
21 Hamilton Street
Monroeville, Ohio 44847

Dear Mr. Burkett:

A recycled plastic offset block (called the P-Block) for use with strong steel post W-beam guardrail was accepted for use on National Highway System (NHS) on November 7, 2002, (Federal Highway Administration ((FHWA)) acceptance letter B-109). A similar design for use with round wood posts was accepted on August 29, 2003 (acceptance letter B-109A). Both letters were addressed to Mr. Daniel J. Mushett with Interstate Timber Products Company.

In your March 9, 2004, letter to Mr. Richard Powers of my staff, you advised him that you have purchased the rights to the P-Block from Interstate Timbers Products Company and have further modified its design. You indicated that your modified block is comprised of the same materials as the P-Block (approximately 50/50 blend of High Density Polyethylene and Low Density Polyethylene with a small amount of additives), but that the flared "wings" centered along the back edge of the block have been lengthened from their original 7 inches to 12 inches. The traffic face of the block remains approximately 4-inches wide and its effective depth remains at just under 8 inches. These details are shown on the enclosed drawing (Enclosure 1). You had this redesigned block crash tested at E-TECH Testing Services, Inc. in Rocklin, California, the results of which are contained in that agency's March 2003 report entitled "NCHRP Report 350 Crash Test Results for the Burkett Molding P-Block Guardrail Blockout." Enclosure 2 is the summary page from the report that shows the 2000P pickup truck was fully contained and smoothly redirected following an impact into a strong post W-beam guardrail installation in which the modified P-Block was used in lieu of standard routed timber blockouts.

I agree that the modified P-Block, as described above, is acceptable for use with strong post W-beam guardrail installations on the NHS. Minor modifications to the dimensions of the P-Block for use with Thrie-beam guardrail (longer block and wings) and with round wood posts (concave backside to match the posts) are also acceptable.

Please note the following standard provisions that apply to the FHWA letters of acceptance:

- This acceptance is limited to the crashworthiness characteristics of the offset block and does not cover its long-term durability.
- Any changes that may adversely influence the crashworthiness of the device will require a new acceptance letter.
- Should the FHWA discover that in-service performance reveals unacceptable safety problems, or that the device being marketed is significantly different from the version that was accepted, it reserves the right to modify or revoke its acceptance.
- You will be expected to certify to potential users that the blocks furnished have essentially the same chemical composition and geometry as that submitted for acceptance.
- To prevent misunderstanding by others, this letter of acceptance, designated as number B-109B shall not be reproduced except in full. This letter, and the documentation upon which this letter is based, is public information. All such letters and documentation may be reviewed at our office upon request.
- This acceptance letter shall not be construed as authorization or consent by the FHWA to use, manufacture, or sell any patented device for which the applicant is not the patent owner. The FHWA acceptance is limited to the crashworthiness characteristics of the candidate device, and this office is neither prepared nor required to resolve issues concerning patent law. Please note that the FHWA reserves the right to withdraw an acceptance letter if the applicant's submission is later shown to misrepresent the issue, either intentionally or unintentionally, or contains errors of fact or omission.
- If your product is patented, it cannot be specified for use on Federal-aid projects, except exempt, non-NHS projects. Our regulations concerning proprietary products are contained in Title 23, Code of Federal Regulations, Section 635.411, a copy of which is Enclosure 3.

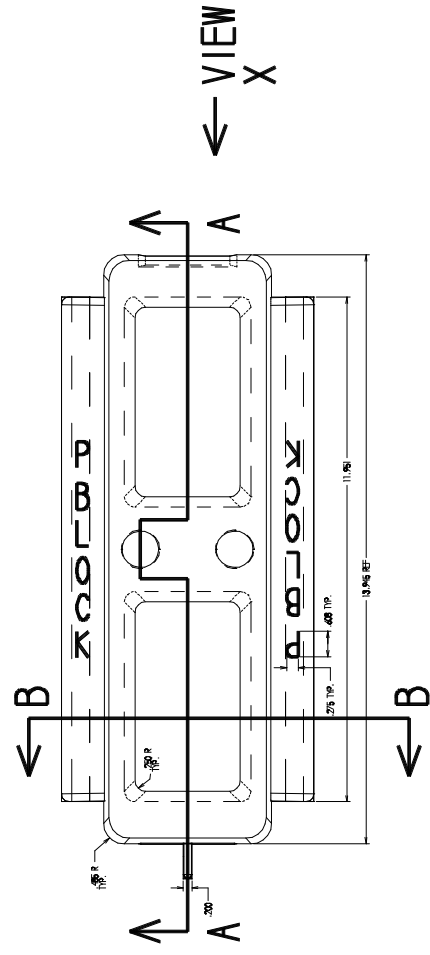
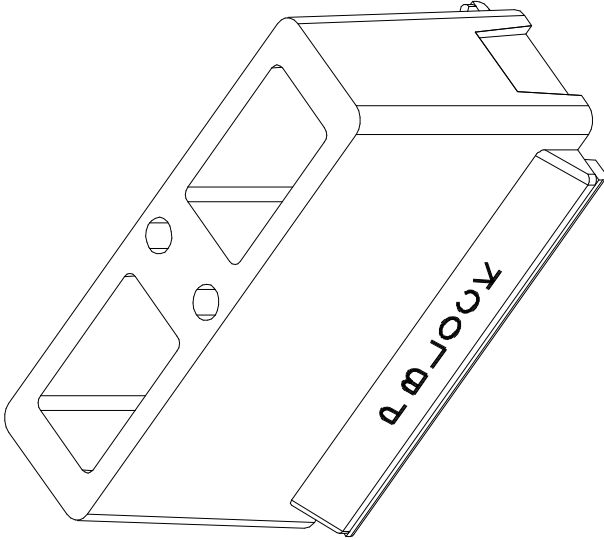
Sincerely yours,

(original signed by Hari Kalla)

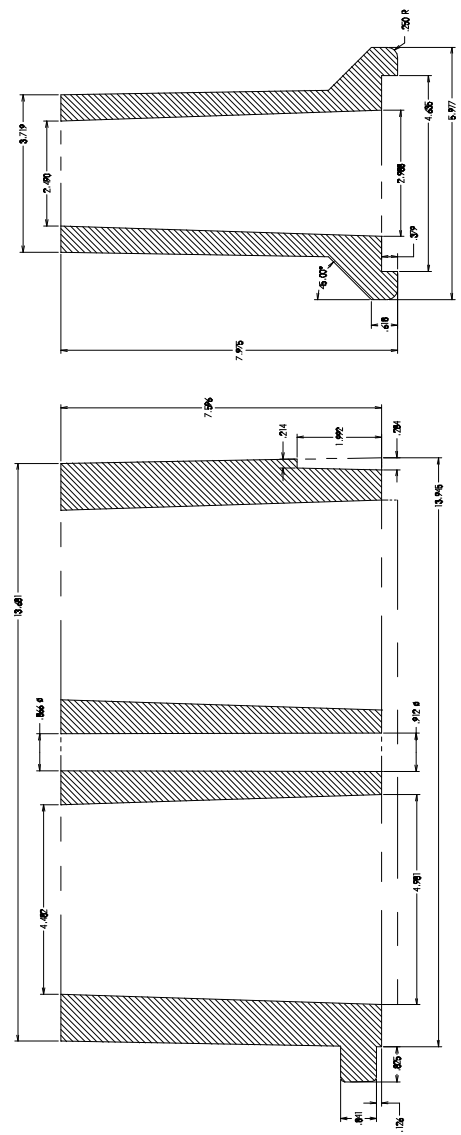
for:

John R. Baxter
Director, Office of Safety Design
Office of Safety

3 Enclosures



← VIEW X



VIEW X

SEC B-B

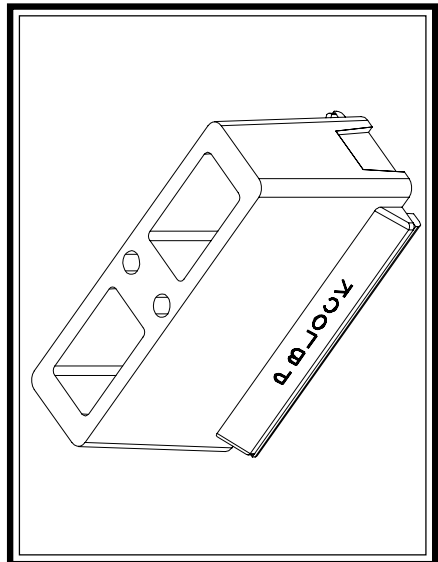
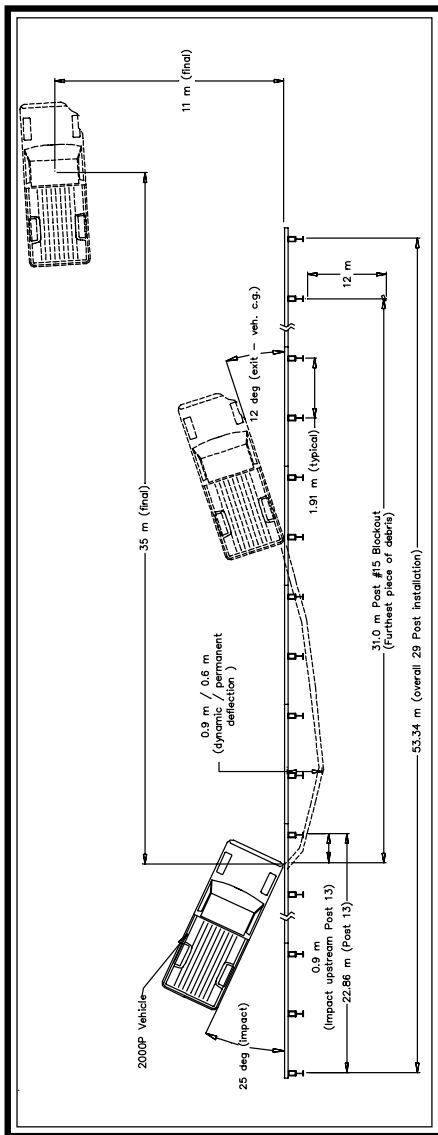
SEC A-A

BURKETT MOLDING		DATE	7-25-04	SCALE	1:1
ADVANTAGE MOLD		DESIGNER	7-25-04	DATE	7-25-04
P.O. BOX 110707		PROJECT		REV	
1255 N. WILSON ST.		QUANTITY		BY	
PHOENIX, AZ		APPROVED		CHKD	

03-10707



t = 0.000 sec t = 0.120 sec t = 0.240 sec t = 0.360 sec t = 0.480 sec t = 0.600 sec



General Information

Test Agency	E-TECH Testing Services, Inc.
Test Designation	NCHRP 350 Test 3-11
Test No.	53-0017-001
Date	12/17/03
Test Article	
Type	Burkett Moulding, Inc.
Installation Length	P-Block Guardrail Blockout
Material and key elements	53.34 m Guardrail (overall)
.....	AASHTO SGR04a Guardrail with
.....	SEW02a End Terminal equipped
.....	with 152 mm x 203 mm x 354 mm
.....	3.2 kg blockouts of a 50-50 mix of
.....	LDPE/HDPE reground plastic
Foundation Type and Condition	NCHRP 350 Strong Soil, well
.....	drained
Test Vehicle	
Type	Production Model
Designation	2000P
Model	1989 Chevrolet C2500
.....	3/4 Ton Pickup
Mass (kg)	
Curb	1972
Test inertial	1995
Impact Conditions	
Speed (km/h)	99.7
Angle (deg)	25
Impact Severity (kJ)	136.6

Exit conditions	
Speed (km/h)	50.8
Angle (deg - veh. c.g.)	12
Occupant Risk Values	
Impact Velocity (m/s)	5.0
x-direction	-4.5
y-direction	
Ridedown Acceleration (g/s)	
x-direction	-8.4
y-direction	-8.9
European Committee for Normalization (CEN) Values	
THIV (km/h)	23.9
PHD (g/s)	11.3
ASI	0.7
Post-Impact Vehicular Behavior (deg - rate gyro)	
Maximum Roll Angle	-4.0
Maximum Pitch Angle	-7.0
Maximum Yaw Angle	-43.5
Test Article Deflections (m)	
Dynamic	0.9
Permanent	0.6
Vehicle Damage (Primary Impact)	
Exterior	
VDS	RFQ-3
CDC	01RFEW3
Interior	
VCDI	AS0000000
Maximum Deformation (mm)	Negligible

Figure 1. Summary of Results - P-Block Blockout NCHRP 350 Test 3-11

Sec. 635.411 Material or product selection.

(a) Federal funds shall not participate, directly or indirectly, in payment for any premium or royalty on any patented or proprietary material, specification, or process specifically set forth in the plans and specifications for a project, unless:

(1) Such patented or proprietary item is purchased or obtained through competitive bidding with equally suitable unpatented items; or

(2) The State highway agency certifies either that such patented or proprietary item is essential for synchronization with existing highway facilities, or that no equally suitable alternate exists; or

(3) Such patented or proprietary item is used for research or for a distinctive type of construction on relatively short sections of road for experimental purposes.

(b) When there is available for purchase more than one nonpatented, nonproprietary material, semifinished or finished article or product that will fulfill the requirements for an item of work of a project and these available materials or products are judged to be of satisfactory quality and equally acceptable on the basis of engineering analysis and the anticipated prices for the related item(s) of work are estimated to be approximately the same, the PS&E for the project shall either contain or include by reference the specifications for each such material or product that is considered acceptable for incorporation in the work. If the State highway agency wishes to substitute some other acceptable material or product for the material or product designated by the successful bidder or bid as the lowest alternate, and such substitution results in an increase in costs, there will not be Federal-aid participation in any increase in costs.

(c) A State highway agency may require a specific material or product when there are other acceptable materials and products, when such specific choice is approved by the Division Administrator as being in the public interest. When the Division Administrator's approval is not obtained, the item will be nonparticipating unless bidding procedures are used that establish the unit price of each acceptable alternative. In this case Federal-aid participation will be based on the lowest price so established.

(d) Appendix A sets forth the FHWA requirements regarding (1) the specification of alternative types of culvert pipes, and (2) the number and types of such alternatives which must be set forth in the specifications for various types of drainage installations.

(e) Reference in specifications and on plans to single trade name materials will not be approved on Federal-aid contracts.