IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

JOSHUA HARMAN, on behalf of The UNITED STATES OF AMERICA,	§ §	
PLAINTIFF/Relator,	§ §	CIVIL ACTION NO. _____
V.	§ §	FILED UNDER SEAL 31 U.S.C. §§ 3729-32
TRINITY INDUSTRIES, INC,	§ §	JURY TRIAL DEMANDED
DEFENDANT	§	

FALSE CLAIMS ACT COMPLAINT
"QUI TAM"

TO THE HONORABLE JUDGE OF SAID COURT:

The United States of America, by and through *qui tam* Relator, Joshua Harman, brings this action under 31 U.S.C. §§ 3729-32 (The "False Claims Act") to recover from Trinity Industries, Inc. ("Trinity") for all damages, penalties, and other remedies available under the False Claims Act on behalf of the United States and himself and would show unto the Court the following:

PARTIES

1. Relator, Joshua Harman ("Harman"), is an individual and citizen of the United States of America residing in Swords Creek, Virginia.

2. Defendant Trinity Industries, Inc. is a Delaware corporation authorized to do business in Texas with its principal place of business located at 2525 Stemmons Freeway, Dallas, Texas 75207. Trinity's Texas agent for service of process is CT Corp System, 350 N. St. Paul St., Suite 2900, Dallas, Texas 75201-4234.

JURISDICTION AND VENUE

3. This Court maintains subject matter jurisdiction over this action pursuant to 31 U.S.C. §3732(a) (False Claims Act) and 28 U.S.C. § 1331 (Federal Question).

4. Venue is proper in this Court under 31 U.S.C. § 3732(a) because Trinity manufactures and sells guardrail systems throughout the Eastern District of Texas as well as throughout the United States.

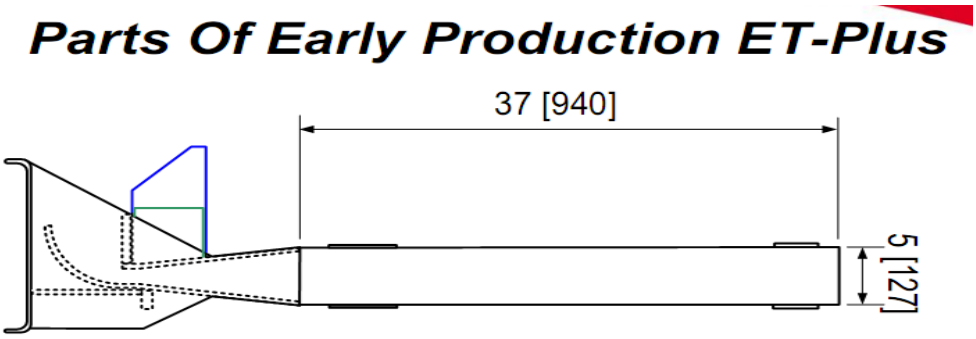
5. Harman is the original source of and has direct and independent knowledge of all publicly disclosed information that the allegations herein are based upon. Harman has personally gathered all the documentation and photographs substantiating the allegations herein. Additionally, he has voluntarily provided all such information to the Government prior to the filing of this action.

FACTS

6. Trinity is in the business of manufacturing various highway safety and construction products for use across the United States. In particular, Trinity manufactures the ET-Plus guardrail end terminal ("ET-Plus") under an exclusive license agreement from Texas A & M University.[1] The ET-Plus is commonly referred to as a "head" and when used in conjunction with the standard "W" style guardrail seen throughout the roads and highways of America is designed to absorb and dissipate the energy of a vehicular impact. Upon impact the guardrail is extruded through the head and flattened out into a ribbon, thus absorbing the majority of the collision energy. The following picture illustrates an early model ET-Plus performing correctly:

[1] *See* *http://highwayguardrail.com/products/etplus.html*

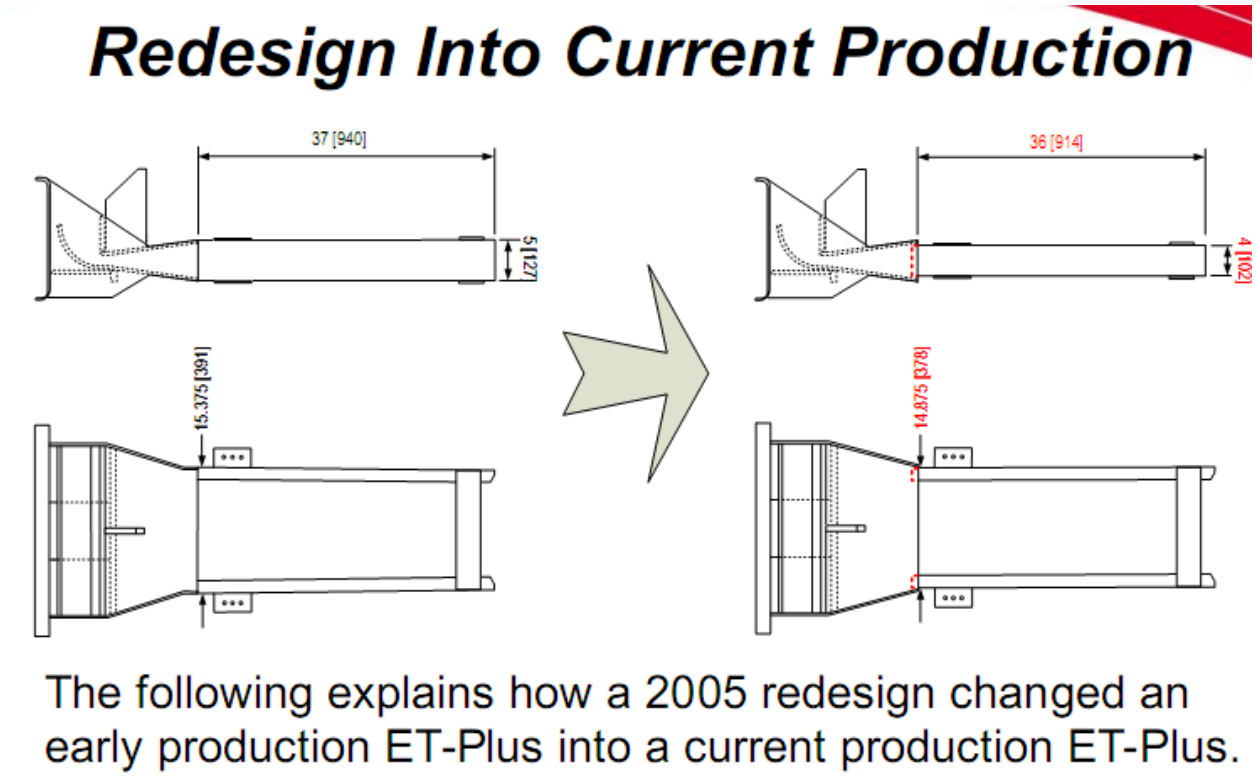
7. The ET-Plus is actually a modified version of what was originally designed and marketed as the ET-2000. **See Exhibit A** (Presentation which includes history of the ET modifications). This newly redesigned head being approximately 100 pounds lighter than the ET-2000 was submitted to the Federal Government and approved for use in January of 2000. The original production of the ET-Plus, built to the approved specifications, was overall very successful. Not only did it work for an initial impact, it continued to work if struck again in a separate incident but before maintenance crews were able to repair it. Shown below is a top view drawing of the head itself:



This is a plan view of an early production ET-Plus showing the feeder chute had a width of 5 inches and a length of 37 inches with either the triangular post breaker or the square post breaker.

8. The ET-Plus, along with each and every other product used on the National Highway System, must undergo rigorous testing to determine and validate crashworthiness before the product may be placed on the National Highway System. The Federal Highway Administration, a division of government under the U.S. Department of Transportation, along with other state and federal organizations, are charged with establishing the crashworthiness criteria for products such as the ET-Plus. Once a product is approved for use along the National Highway System its design specifications cannot be altered. If altered, the product must undergo additional testing and approval prior to placement on the National Highway System.

9. Beginning in early 2005, a different ET-Plus started appearing along the National Highway System. In particular, this head was manufactured with a four inch feeder chute and a shorter overall height.



In addition, due to the shortened height, the feeder rails are actually inserted into the head .75

inches rather than being welded flush to it. This drastically reduced the overall space of the feeder chute.

10. Trinity twice petitioned the FHWA for modifications to other components of the overall ET-Plus system, once in September of 2005 and then again in August of 2007. **See Exhibit B** (CC-94 and CC94a). These modifications, however, primarily dealt with the breakaway post system that upholds the guardrail near the ET-Plus head. Nowhere in these design changes does Trinity mention the reduced feeder chute size changes. In fact, to date Harman has been unable to locate any documentary proof that Trinity ever officially petitioned the Government for approval to the feeder chute changes outlined above. The reason is simple, the documentation does not exist. As explained more fully in ¶ 14 below, Trinity failed to submit the modifications for approval.

11. The problem with the ET-Plus as modified in 2005 is that the guardrail does not feed properly through the chute due to the reduced area of the feeder chute itself. This causes the guardrail to "throat lock" in the head during impact. Once throat locked, the energy of the crash is diverted elsewhere usually causing the guardrail to double over on itself or protrude through the crashing vehicle. If the guardrail and head assembly protrude like a spear through the vehicle, the inevitable result is usually death or serious bodily injury to the persons in the vehicle. The following pictures illustrate the front and back of a vehicle striking a guardrail *after* it had been hit previously but before maintenance crews could repair the head and rail:

On the other hand, if the guardrail doubles over on itself after throat lock, it creates a new hazard for other approaching vehicles that may encounter the head before a maintenance crew can repair it. A doubled over guardrail after throat lock is shown below:

12. It is believed that there literally hundreds of thousands of these defective heads on the National Highway System as well as state and local roadways. The potential for danger is obvious and inevitable. Harman is personally aware of fatalities involving the modified ET-Plus in Tennessee, Virginia, Kentucky, and possibly Texas. In over 100 accidents involving the modified ET-Plus, Harman has not seen the head function properly.

13. The only logical conclusion as to why Trinity would modify the ET-Plus is to save manufacturing costs. It is believed that the 4" inch C channel used to construct the feeder chute is substantially cheaper than 5" inch C channel. Trinity, by and through local highway

contractors and the individual States implementing federally funded highway projects, literally made millions in revenue off of this defective product at the expense of the United States Government and the American taxpayer. Improvements made to the National Highway System are typically made by the individual States that bid out and pay for the projects and then seek reimbursement from the federal government. Individual highway contractors would bid on projects that contained quotes for material supplied by Trinity that was alleged to conform to the federal standards for crashworthiness. Once awarded the contract, the highway contractor would purchase the defective ET-Plus head from Trinity and install it along the specified roadway. In the end, federal dollars were and continue to be paid to Trinity to purchase the faulty ET-Plus heads based on Trinity's false statements and conduct. This constitutes a false claim under the FCA. *See U.S. v. Mackby*, 339 F.3d 1013, 1018 (9th Cir. 2003), *cert. denied*, 541 U.S. 936 (2004).

14. Harman has made a conscious effort to bring awareness to this issue. Specifically, over the past month Harman has had numerous contacts with Mr. Nick Artimovich, II regarding the complaints made against Defendant herein. Mr. Artimovich is a highway engineer for the Federal Highway Administration, Office of Safety Technologies.[2] Additionally, he is the program director for crashworthiness testing of roadside hardware used on the National Highway System. Mr. Artimovich admitted to Harman that the ET-Plus as modified has never been officially submitted or approved for use on the National Highway System by the FHWA. Lastly,

[2] Nicholas Artimovich, II, Highway Engineer, Office of Safety Technologies, Federal Highway Administration HSST, 1200 New Jersey Avenue SE, Room E71-322, Washington, DC 20590. email: nick.artimovich@dot.gov, phone: 202-366-1331, fax: 202-366-3222, web: http://safety.fhwa.dot.gov

as recently as three weeks ago at the American Traffic Safety Services Association[3] annual Expo in Florida, Harman provided a summary presentation of the facts herein to the following state highway officials: New Hampshire DOT, CalTrans, Florida DOT, Oklahoma DOT, North Carolina DOT, Pennsylvania DOT, and Mississippi DOT.

15. Harman is also the owner and author of a website entitled www.failingheads.com which contains most of the information found in this complaint. This website explains the history of the ET head product line and the current failures that are being seen every day. The website just came on live in late January of 2012 and has restricted access. Harman is also the owner and author of a website entitled www.make-a-way.phrop.com which contains over 5000 photographs of accidents involving the modified ET-Plus throughout the United States.

CAUSE OF ACTION

Violations of the False Claims Act

16. Harman incorporates and re-alleges all of the foregoing allegations herein.

17. Based upon the acts described above, Defendant knowingly violated on or more of the following:

a. Knowingly presented, or caused to be presented, a false or fraudulent claim for payment or approval;

b. Knowingly made, used, or caused to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the Government.

18. The United States, unaware of the falsity of these claims, records, and statements made by the Defendant, and in reliance on the accuracy thereof, paid money to Defendant and/or

[3] ATSSA is a highway product industry trade group. *See www.atssa.com*.

various highway contractors for the fraudulent claims. These payments were most likely made to the various States under the Federal Aid Highway Program.[4]

19. The United States and the general public have been damaged as a result of Defendant's violations of the False Claims Act.

PRAYER

20. For the reasons set forth above, Harman, on behalf of the United States, respectfully requests this Court to find that Defendant has damaged the United States Government as a result of its conduct under the False Claims Act. Harman prays that judgment enter against Defendant for all applicable damages, including but not limited to the following:

a. Actual damages in an amount sufficient to cover the cost to recall and replace every defective guardrail product of Defendant placed on the public roadways of the United States.

b. Civil Penalties in an amount of three times the actual damages suffered by the Government.

c. Relator seeks a fair and reasonable amount of any award for his contribution to the Government's investigation and recovery pursuant to 31 U.S.C. §§ 3730(b) and (d) of the False Claims Act.

d. Attorney's fees and costs awarded to Relator.

e. Pre-judgment and post judgment interest.

f. All other relief on behalf of the Relator and/or United States Government to which they may be entitled at law or equity.

[4] http://www.fhwa.dot.gov/reports/financingfederalaid/limit.htm

Respectfully Submitted,

By:_____/s/ JBM_____
Josh B. Maness
Texas Bar No. 24046340
P.O. Box 1785
Marshall, Texas 75671
Tel. (903) 407-8455
Fax. (877)320-5751
manessjosh@hotmail.com

Attorney for Relator

CERTIFICATE OF SERVICE

I, Josh Maness, certify that a true and correct copy of the foregoing has been served on counsel for all parties via the Court's CM/ECF system this the 6th day of March 2012. Additionally, the following parties were served via CMRRR:

Hon. Eric Holder
Attorney General of the United States
U.S. Dept. of Justice
950 Pennsylvania Avenue NW
Washington, DC 20530-0001

Hon. Jim Middleton and/or Hon. Randi Rusell
AUSA for the Eastern Dist. of Texas
110 N. College, Suite 700
Tyler, Texas 75702

Hon. Randy Ramseyer
AUSA for the Western Dist. of Virginia
180 W. Main Street
Abingdon, Virginia 24210

_____/s/ JBM_____
Josh B. Maness

Failure Assessment Of Guardrail Extruder Terminals

January 14, 2012

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

Failure Assessment Of Guardrail Extruder Terminals

This presentation is the sole opinion of SPIG Industries based on an empirical analysis of guardrail terminal impacts throughout a number of states.

January 14, 2012

SPIG

ET-Plus Background

The ET-2000 is the first extruding type guardrail end terminal and was accepted by FHWA in August 1995.

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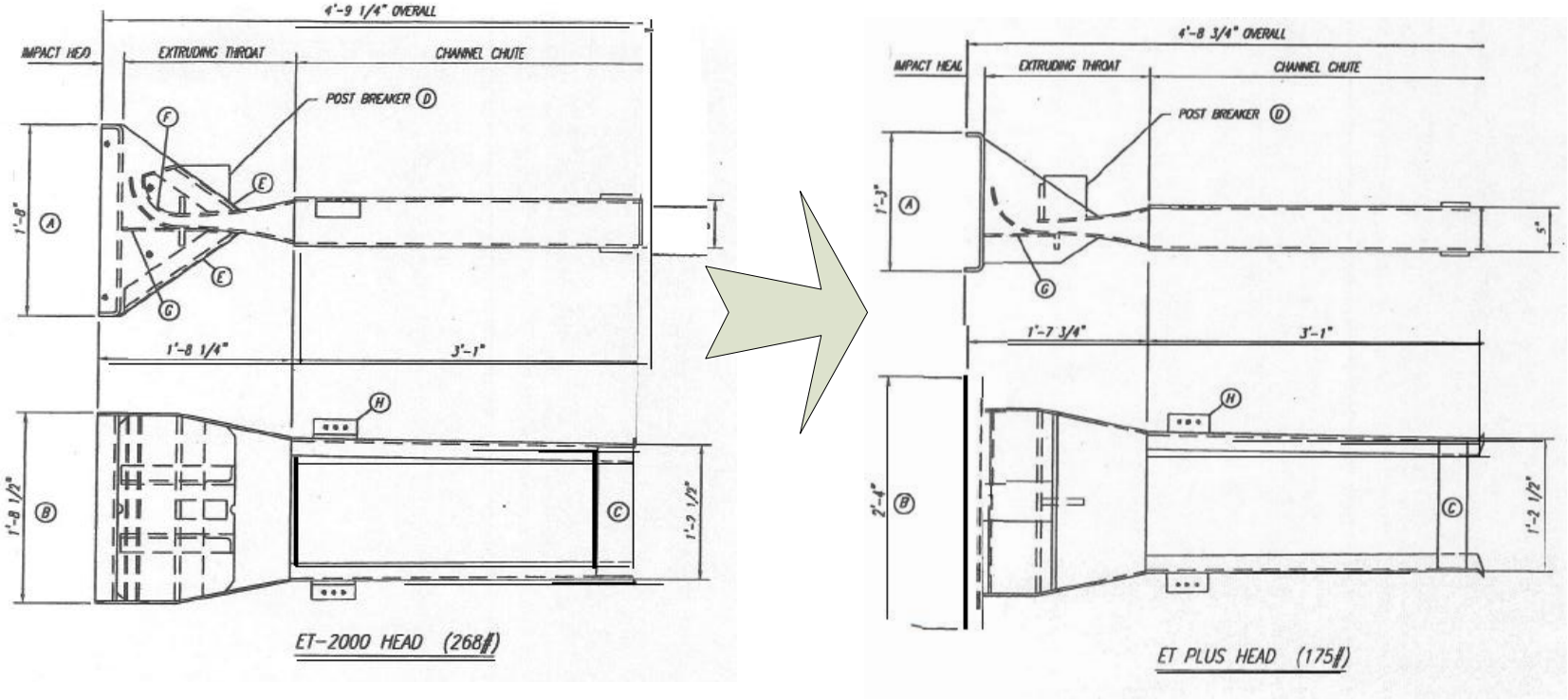
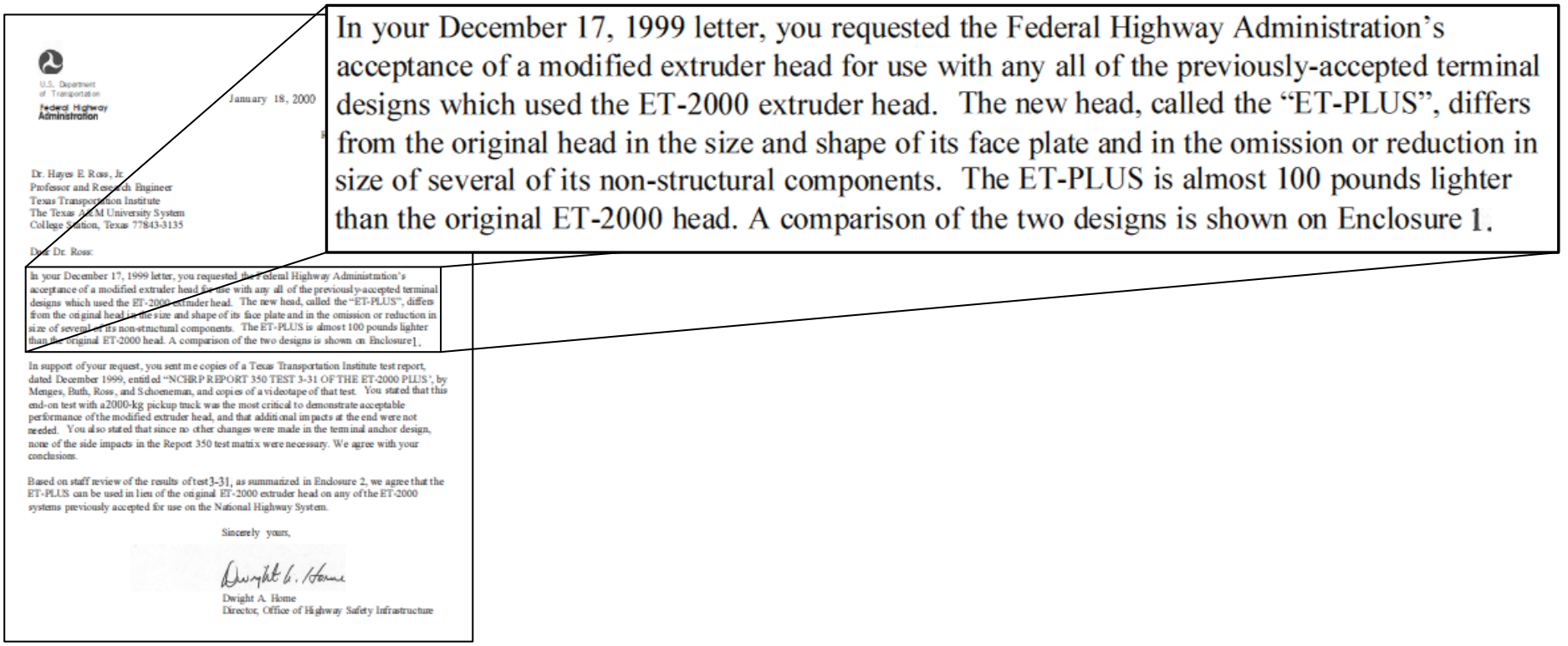


The early production model ET-PLUS was a redesign based on the ET-2000 that eliminated 93 pounds of weight and reduced the number of parts.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

ET-Plus Background



U.S. Department of Transportation
Federal Highway Administration

January 18, 2000

Dr. Hayes E. Ross, Jr.
Professor and Research Engineer
Texas Transportation Institute
The Texas A&M University System
College Station, Texas 77843-3135

Dear Dr. Ross:

In your December 17, 1999 letter, you requested the Federal Highway Administration's acceptance of a modified extruder head for use with any all of the previously-accepted terminal designs which used the ET-2000 extruder head. The new head, called the "ET-PLUS", differs from the original head in the size and shape of its face plate and in the omission or reduction in size of several of its non-structural components. The ET-PLUS is almost 100 pounds lighter than the original ET-2000 head. A comparison of the two designs is shown on Enclosure 1.

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In support of your request, you sent me copies of a Texas Transportation Institute test report, dated December 1999, entitled "NCHRP REPORT 350 TEST 3-31 OF THE ET-2000 PLUS', by Menges, Buth, Ross, and Schoeneman, and copies of a videotape of that test. You stated that this end-on test with a2000-kg pickup truck was the most critical to demonstrate acceptable performance of the modified extruder head, and that additional impacts at the end were not needed. You also stated that since no other changes were made in the terminal anchor design, none of the side impacts in the Report 350 test matrix were necessary. We agree with your conclusions.

Based on staff review of the results of test 3-31, as summarized in Enclosure 2, we agree that the ET-PLUS can be used in lieu of the original ET-2000 extruder head on any of the ET-2000 systems previously accepted for use on the National Highway System.

Sincerely yours,

Dwight A. Home
Director, Office of Highway Safety Infrastructure

The ET-Plus was approved by the FHWA in January of 2000.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

ET-Plus Background

The early production model of ET-Plus was produced from about 1999 to 2005 and had a change in the post breaker shape from square to triangular sometime in 2001.

SPIG

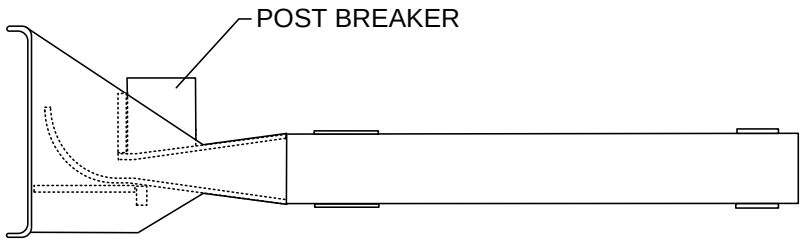
ET-Plus Background

The early production model of ET-Plus was produced from about 1999 to 2005 and had a change in the post breaker shape from square to triangular sometime in 2001.

SPIG

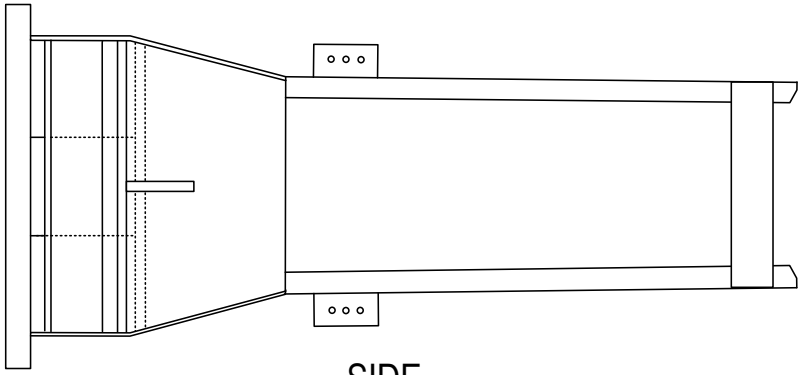
ET-Plus Background

The top drawing is a plan view of an early production ET-Plus with a square post breaker.



PLAN

The bottom drawing is a side view of the same early production ET-Plus.

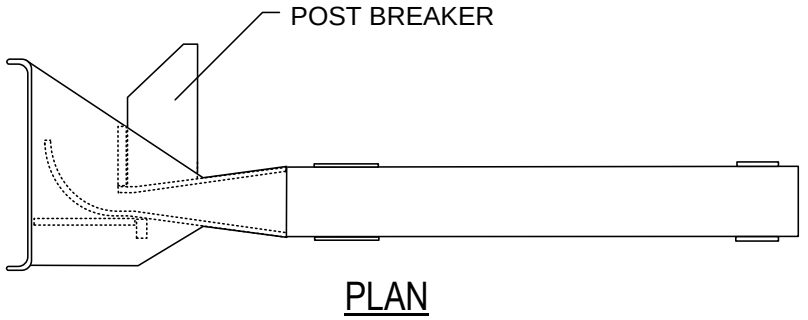


SIDE

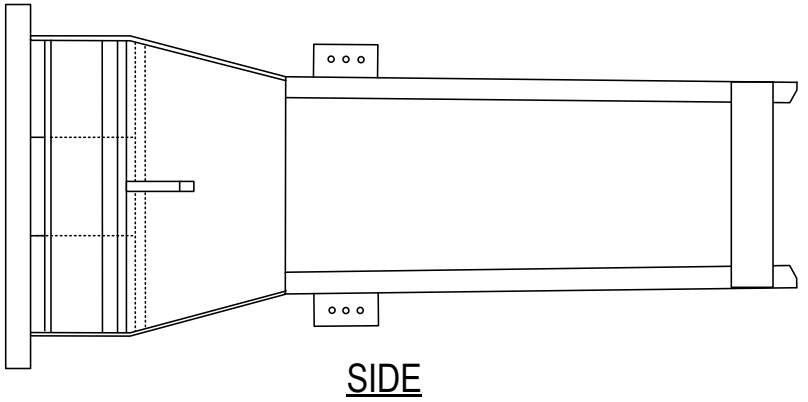
SPIG

ET-Plus Background

The top drawing is a plan view of an early production ET-Plus with a triangular post breaker.

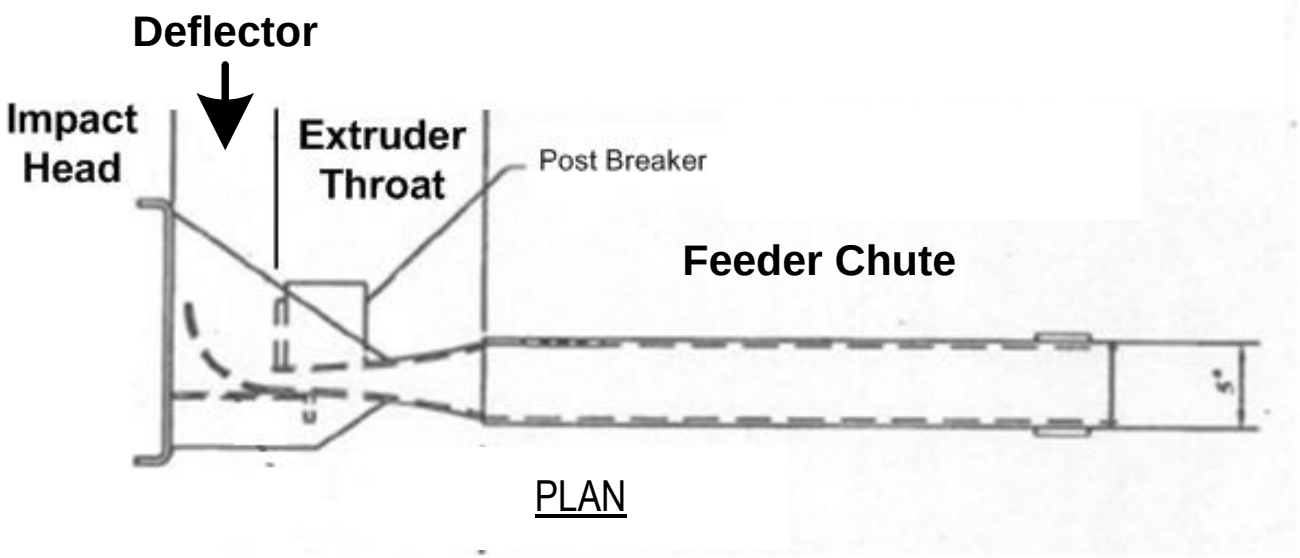


The bottom drawing is a side view of the same ET-Plus.



SPIG

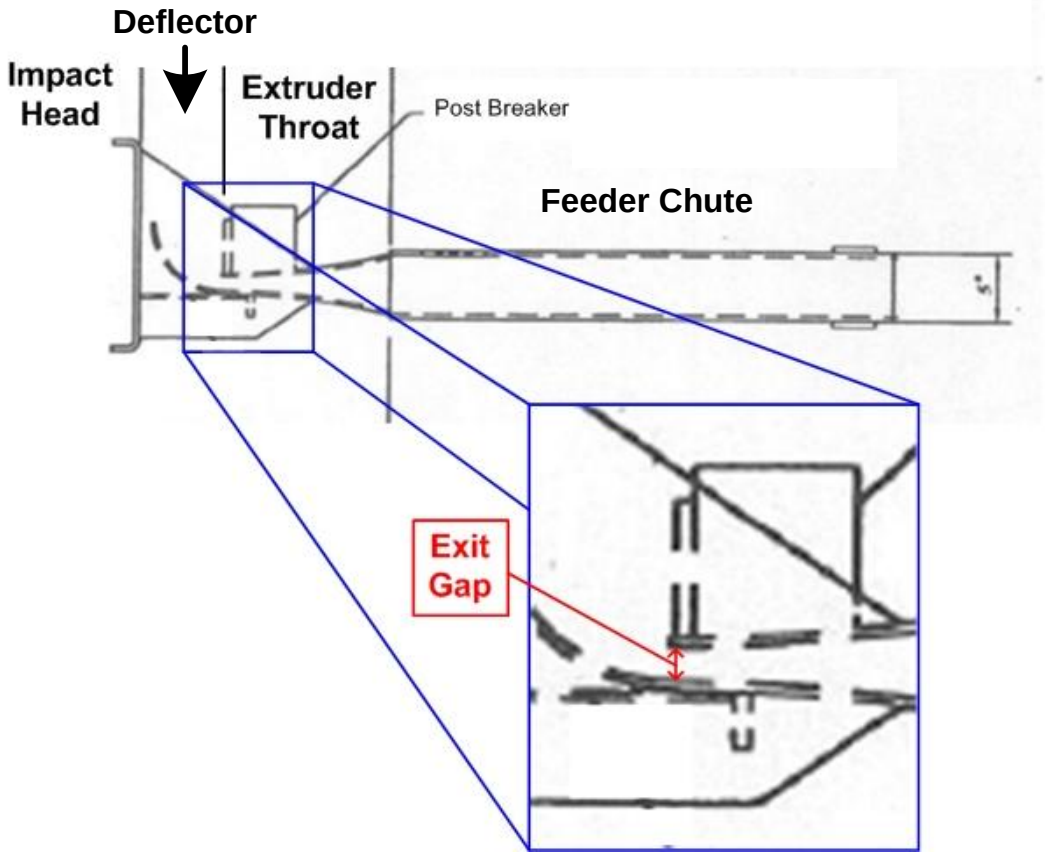
Parts Of Early Production ET-Plus



The early production ET-Plus has four basic sections: impact head, deflector, extruder throat and feeder chute.

SPIG

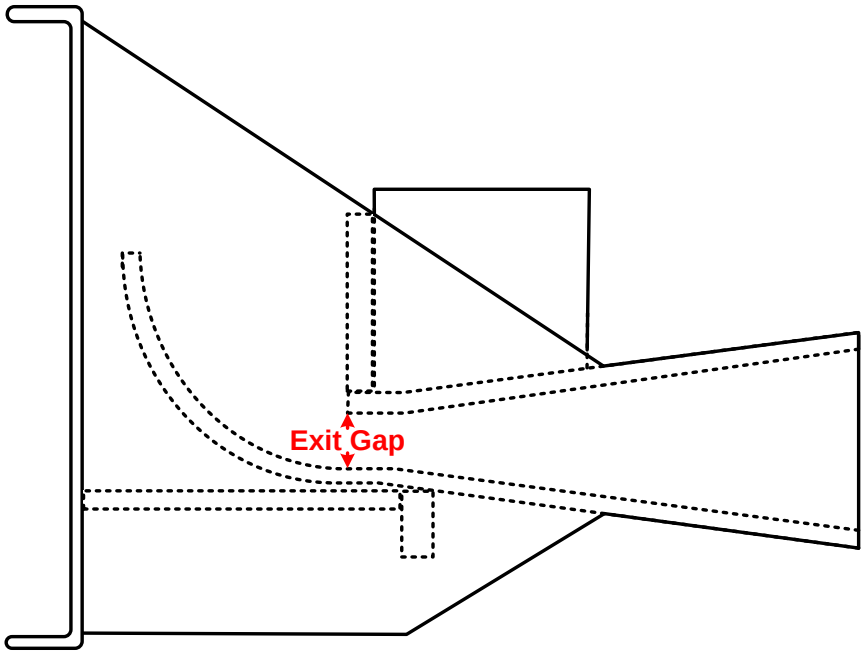
Parts Of Early Production ET-Plus



The end of the extruder throat has an exit gap.

SPIG

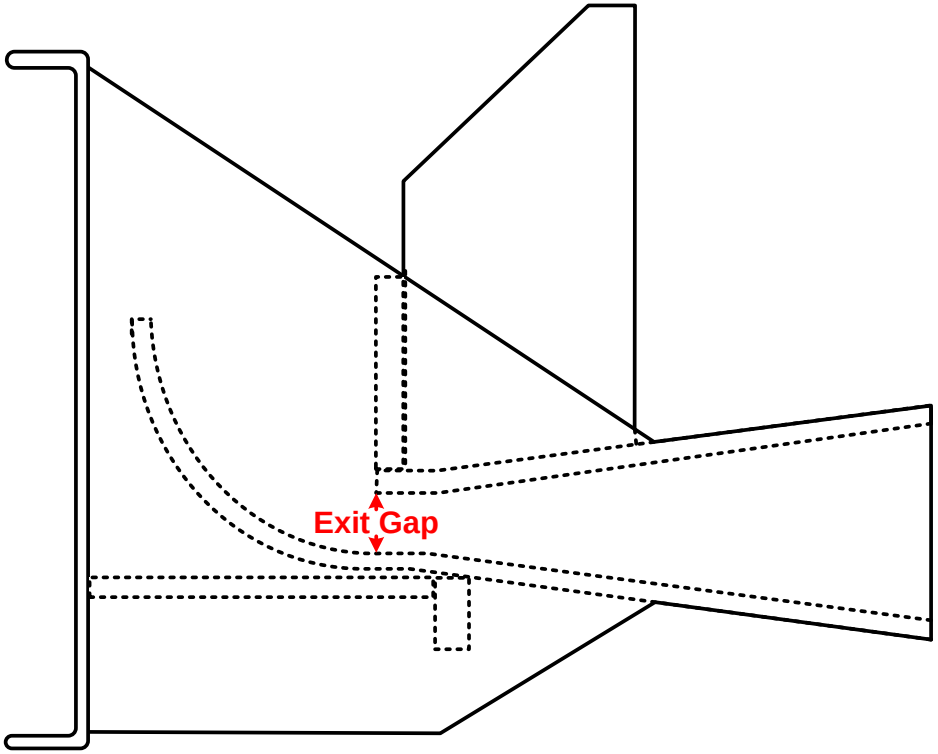
Parts Of Early Production ET-Plus



The exit gap of an early production ET-Plus square post breaker had manufacturing variances between 1.35 to 1.6 inches.

SPIG

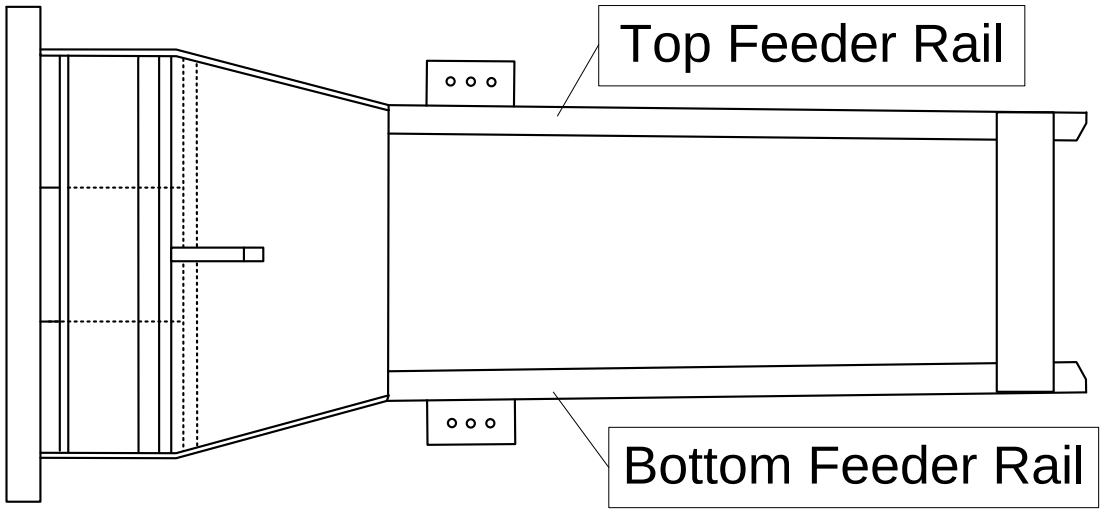
Parts Of Early Production ET-Plus



The exit gap of an early production ET-Plus triangle post breaker had manufacturing variances between 1.1 to 1.5 inches.

SPIG

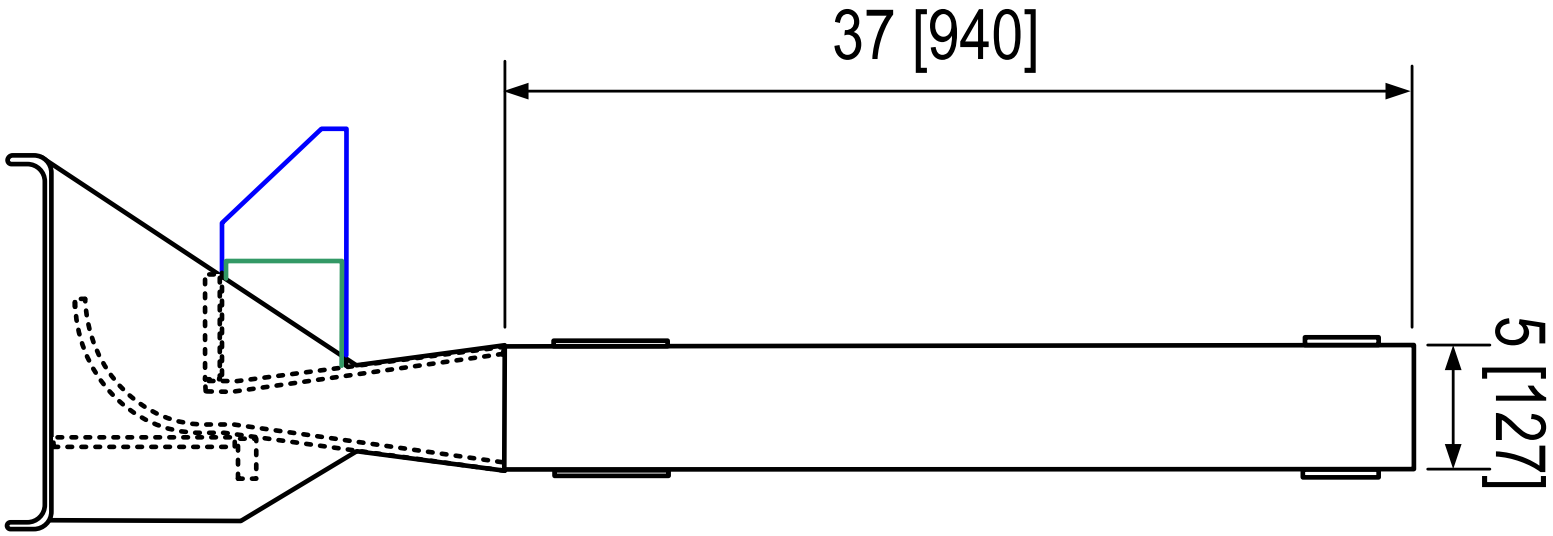
Parts Of Early Production ET-Plus



This is a side view of the ET-Plus showing the top feeder rail and the bottom feeder rail of the feeder chute.

SPIG

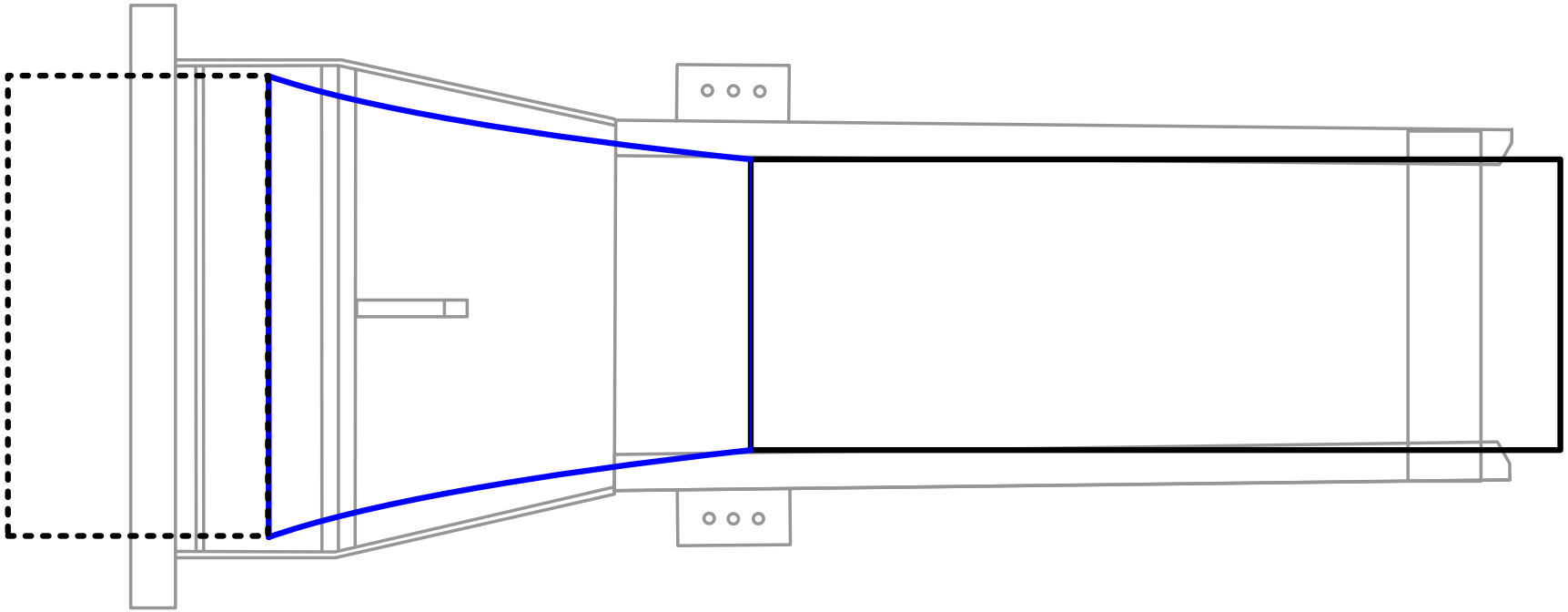
Parts Of Early Production ET-Plus



This is a plan view of an early production ET-Plus showing the feeder chute had a width of 5 inches and a length of 37 inches with either the triangular post breaker or the square post breaker.

SPIG

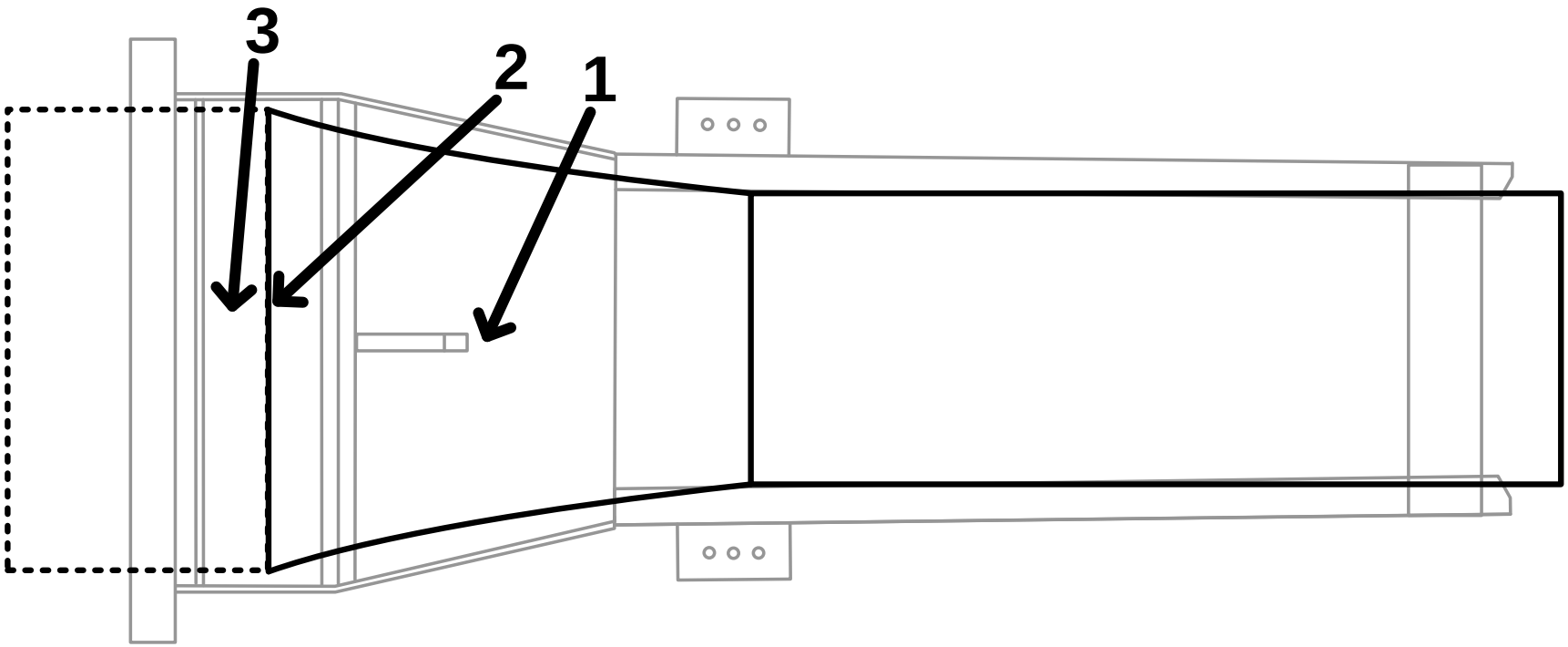
Early Production ET-Plus Performance



The extruding type guardrail terminal creates a dynamic compression plume as the terminal moves down the guardrail.

SPIG

Early Production ET-Plus Performance

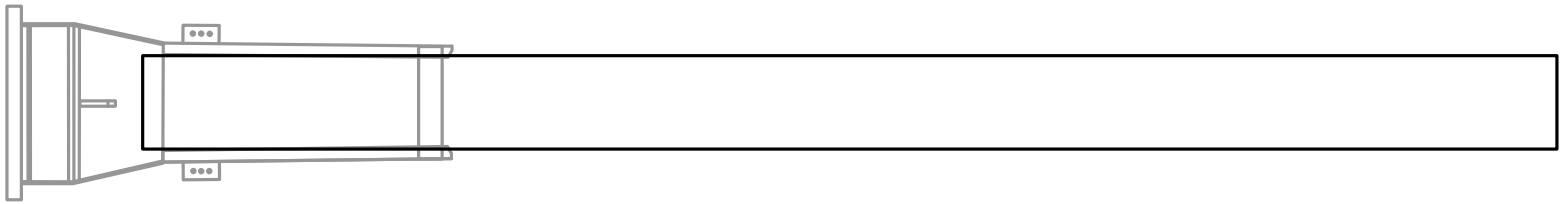


The extruding type guardrail terminal 1) plumes the guardrail, 2) flattens the guardrail, and then 3) deflects the flattened guardrail.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

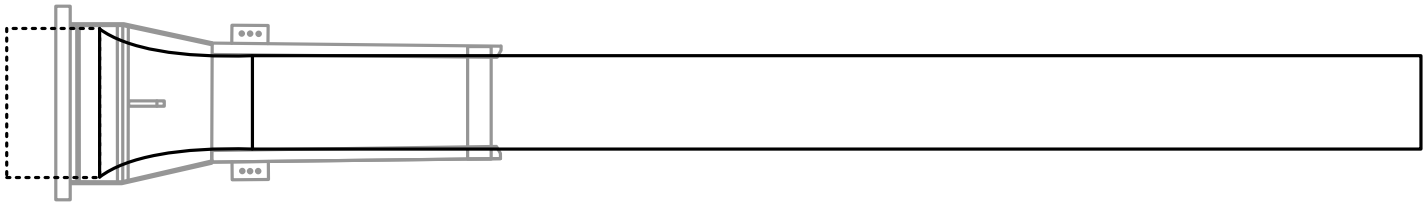
Early Production ET-Plus Performance



The extruding type guardrail terminal creates a dynamic compression plume as the terminal moves down the guardrail.

SPIG

Early Production ET-Plus Performance



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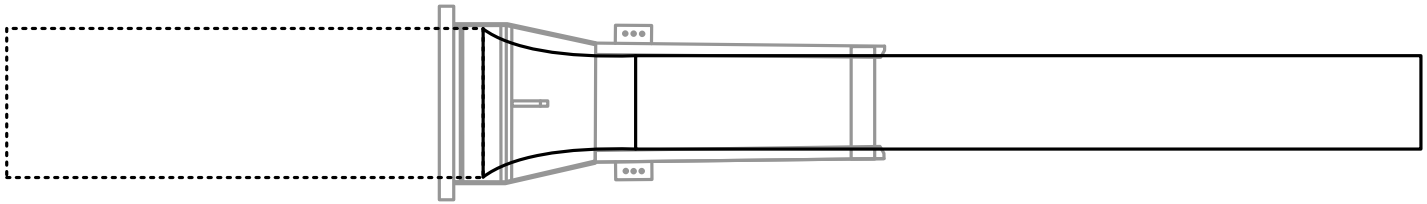

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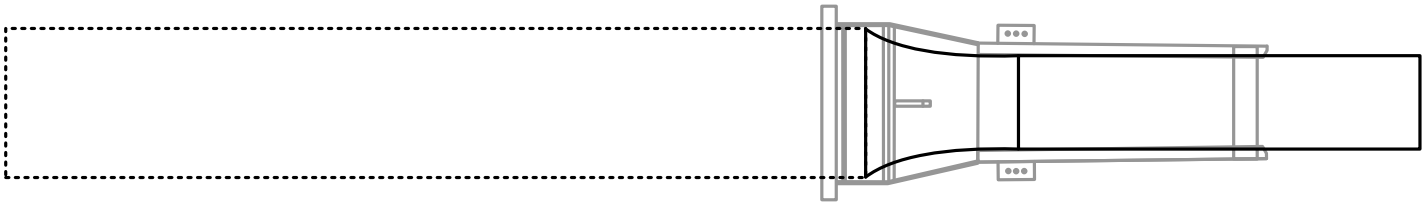
SPIG

Early Production ET-Plus Performance

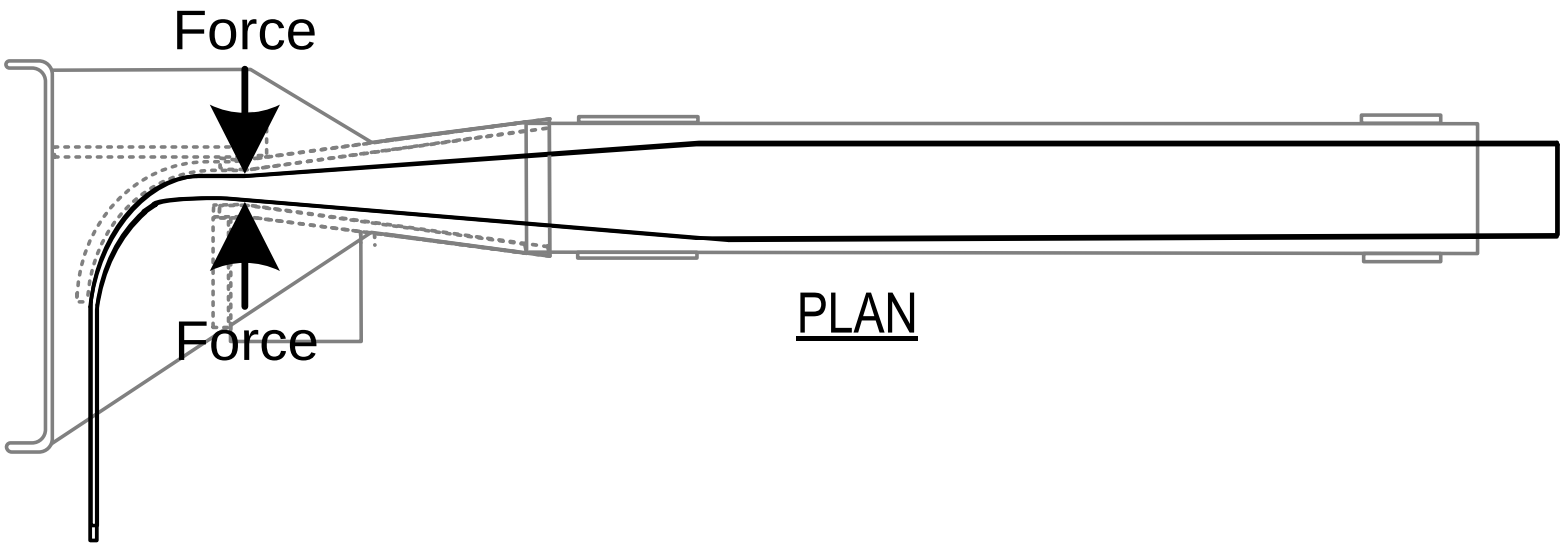


The extruding type guardrail terminal creates a dynamic compression plume as the terminal moves down the guardrail.

ET-2000 and ET-Plus are
trademarks of Trinity Industries

SPIG

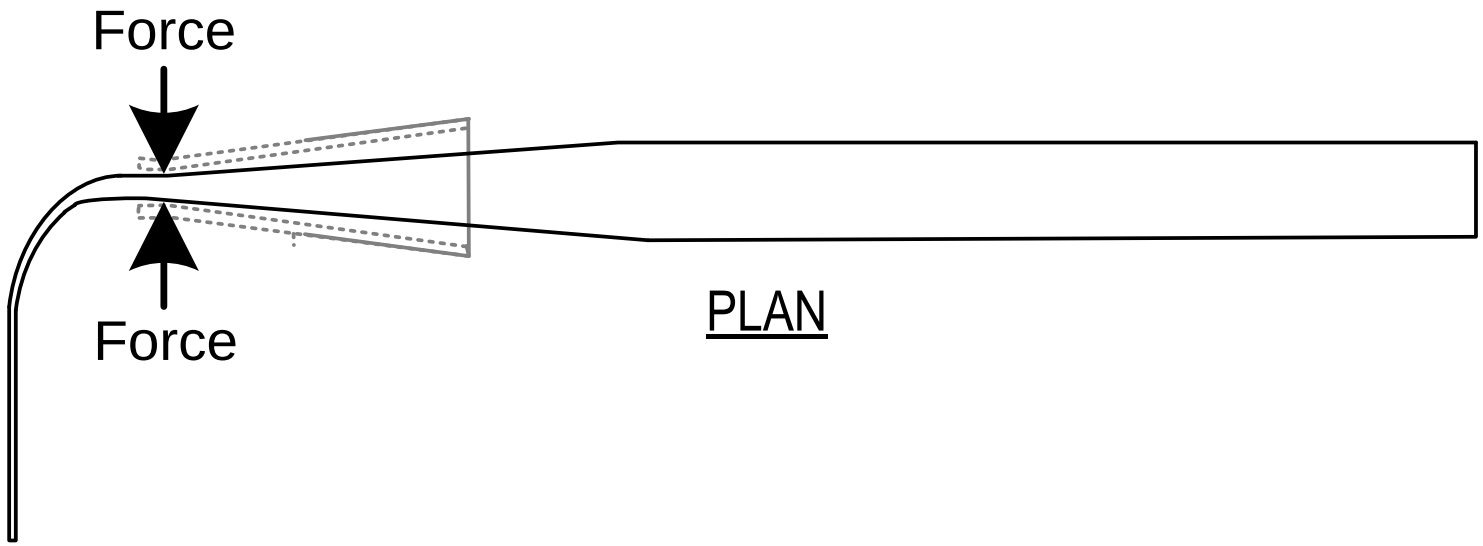
Early Production ET-Plus Performance



The guardrail is compressed by horizontal forces from the extruder throat and subsequently flattened by the deflector into a ribbon.

SPIG

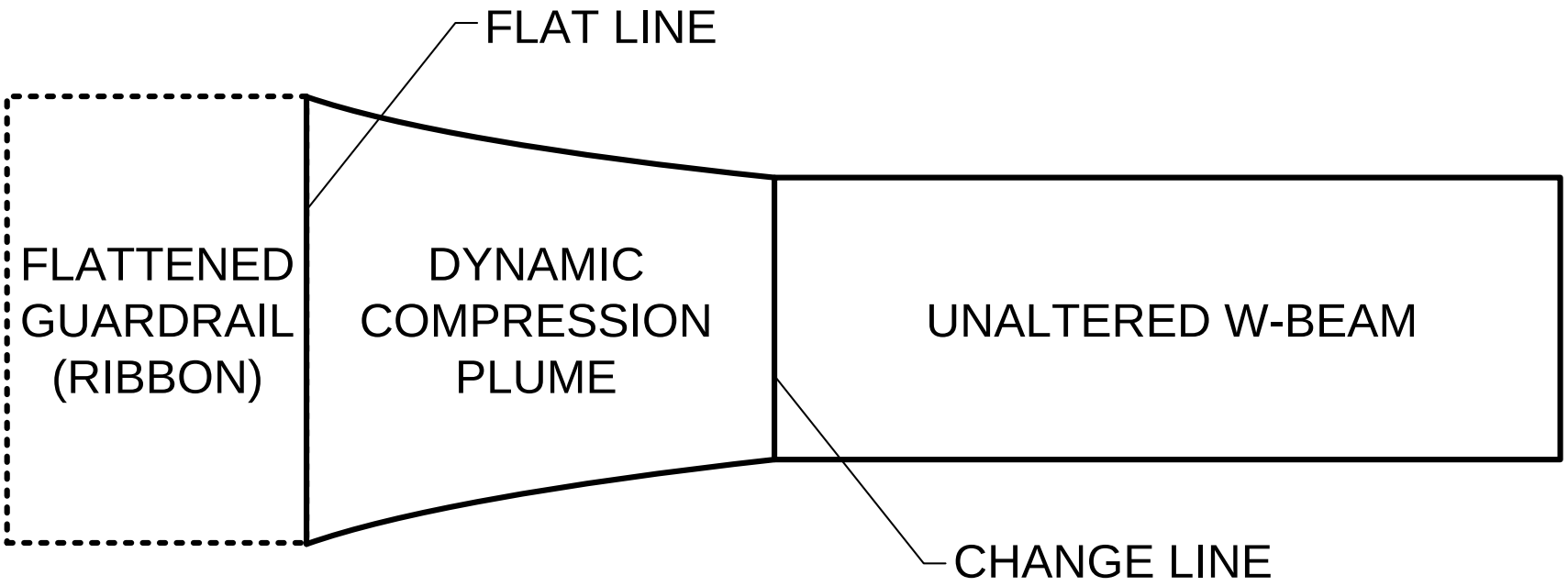
Early Production ET-Plus Performance



Most of the horizontal compressing forces are adjacent to the exit gap of the extruder throat that create the dynamic compression plume.

SPIG

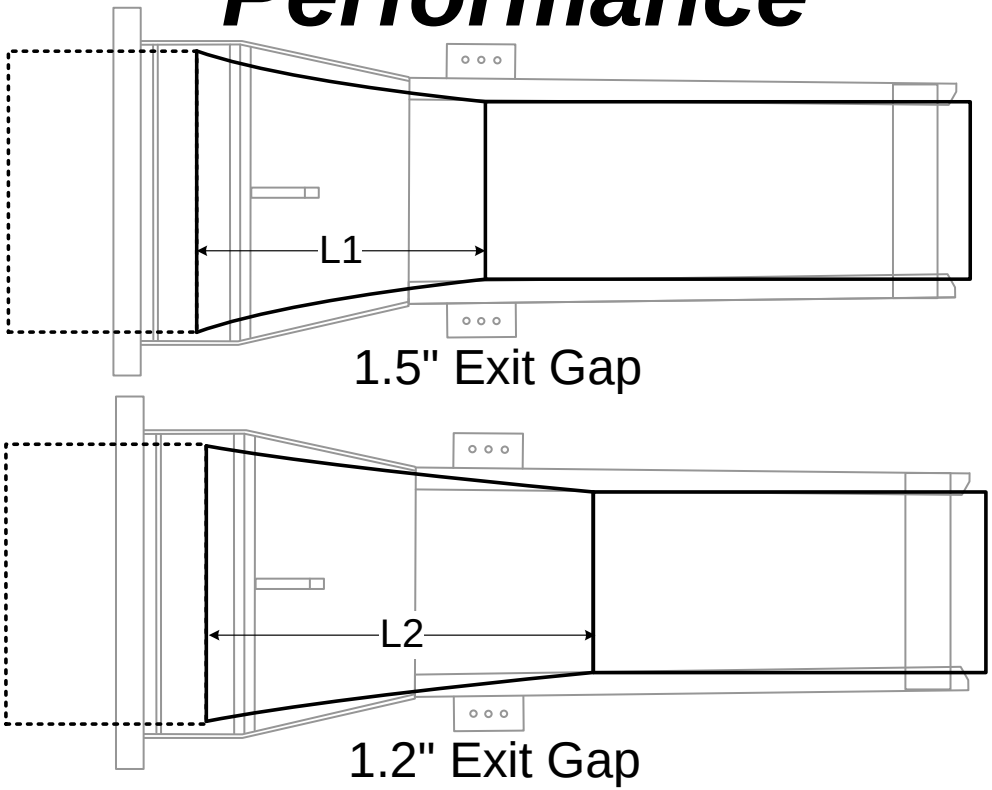
Early Production ET-Plus Performance



The dynamic compression plume is located between the change line and the flat line as the terminal moves along the guardrail during an impact.

SPIG

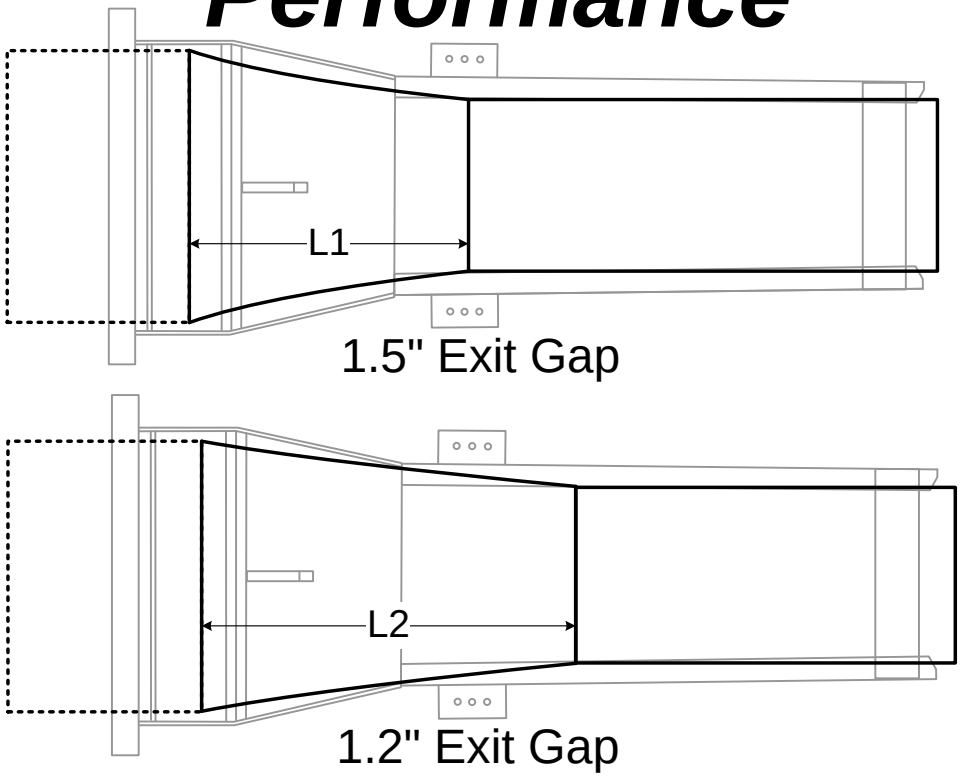
Early Production ET-Plus Performance



As shown above, a smaller exit gap creates a larger or longer dynamic compression plume.

SPIG

Early Production ET-Plus Performance



The early production ET-Plus could easily handle a dynamic compression plume from a 1.5 inch exit gap as well as a larger dynamic compression plume from a 1.2 inch exit gap.

SPIG

Early Production ET-Plus Performance

The early production ET-Plus work.*

*Those with exit gaps less than 1.35 inches may fail at a guardrail splice since guardrail bolts have an overall length of 1.5 inches.

SPIG

Early Production ET-Plus Performance

The early production ET-Plus work.*

*Those with exit gaps less than 1.35 inches may fail at a guardrail splice since guardrail bolts have an overall length of 1.5 inches.

SPIG

Early Production ET-Plus Performance

The early production ET-Plus work.*

*Those with exit gaps less than 1.35 inches may fail at a guardrail splice since guardrail bolts have an overall length of 1.5 inches.

SPIG

Early Production ET-Plus Performance

A glancing blow on an early production ET-Plus and it worked.

SPIG

ET-2000 and ET-Plus are trademarks of Trinity Industries

Early Production ET-Plus Performance

An early production ET-Plus that worked until the guardrail splice.

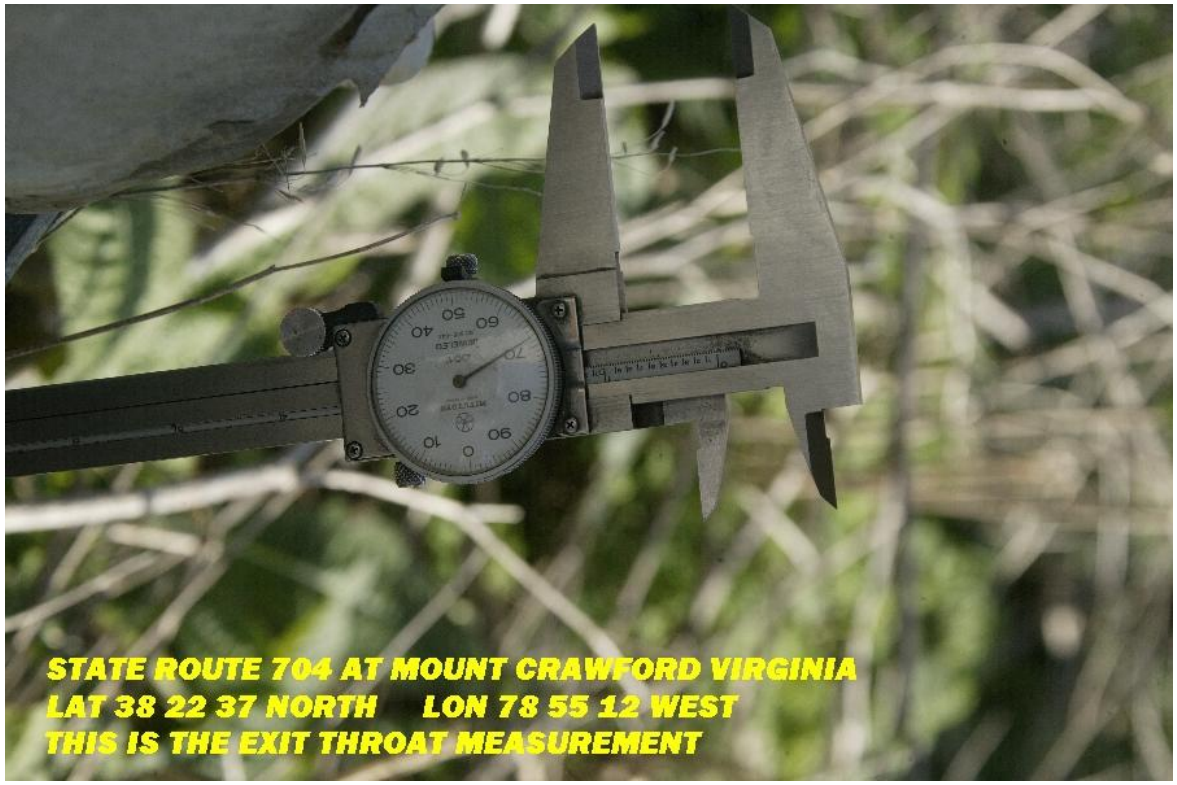
SPIG

Early Production ET-Plus Performance

The rest of the debris.

SPIG

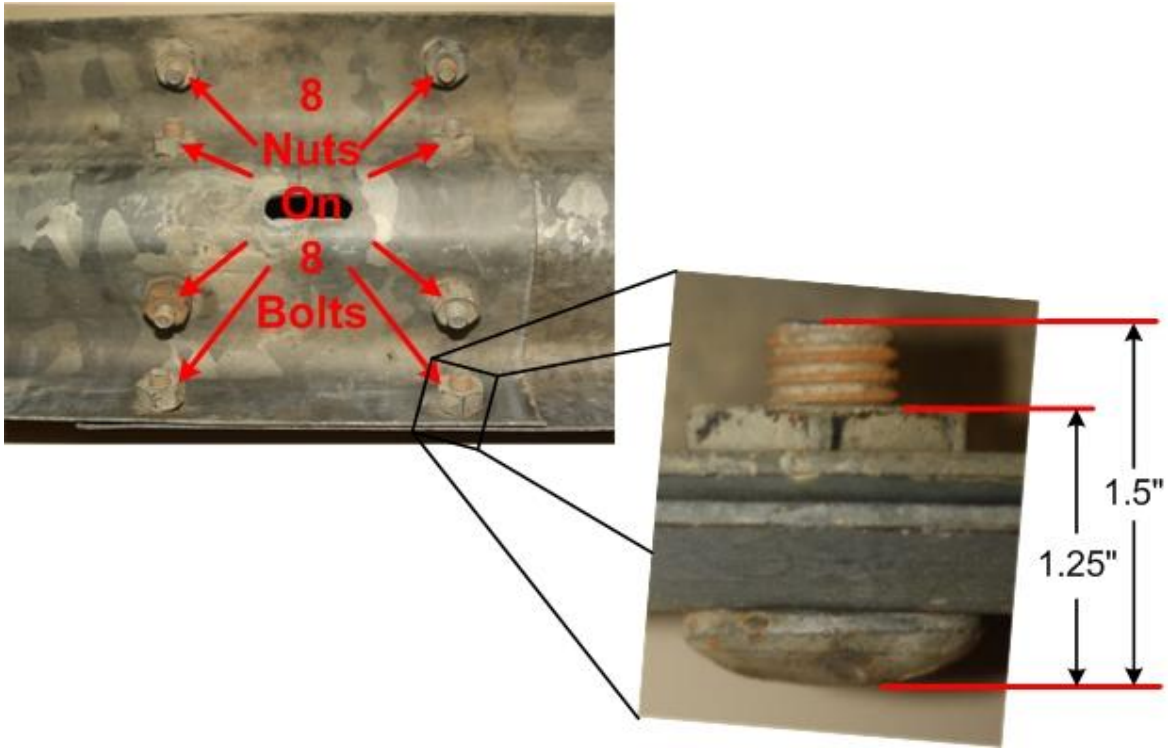
Early Production ET-Plus Performance



The exit gap for the extruder throat was 1.17 inches. If the exit gap had been 1.35 the splice could have gone through.

SPIG

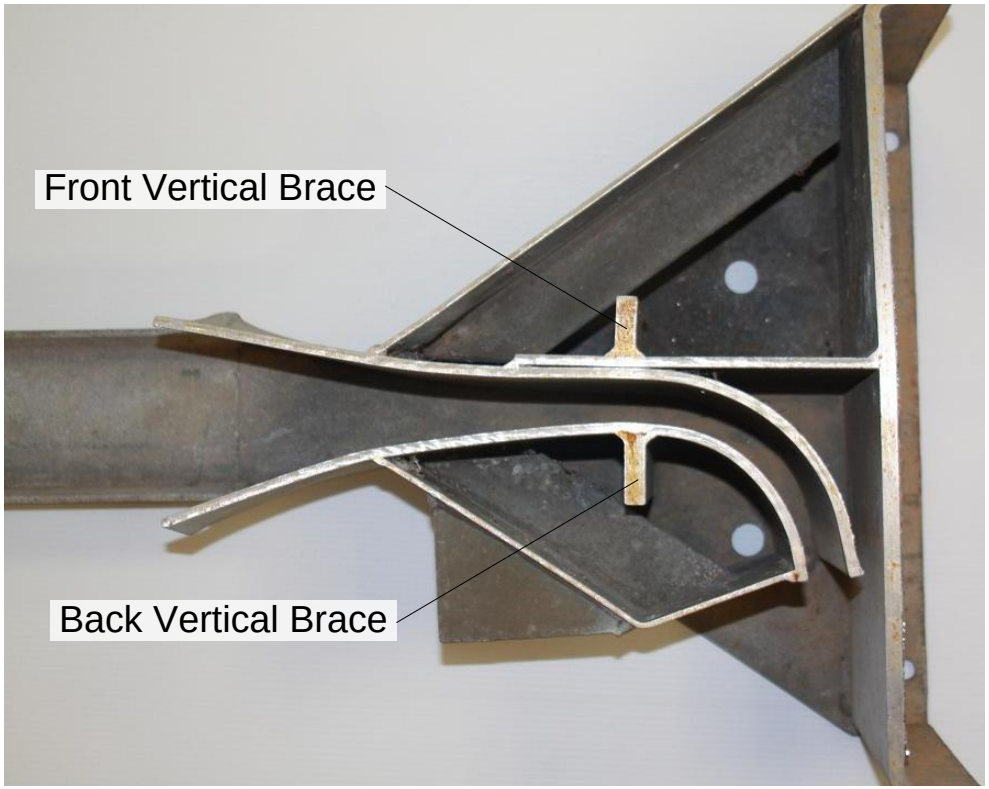
Early Production ET-Plus Performance



There are 8 guardrail splice bolts, which are grade 5 and have an overall length of 1.5 inches.

SPIG

Early Production ET-Plus Performance



The front and back vertical braces of the ET-2000 deformed to allow the 1.5 guardrail bolts through the exit gap.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

Early Production ET-Plus Performance

A 1.5 inch bolt has hard time getting through a 1.17 inch gap and bending the 4 inch wide ½ inch thick steel back vertical brace of the ET-Plus.

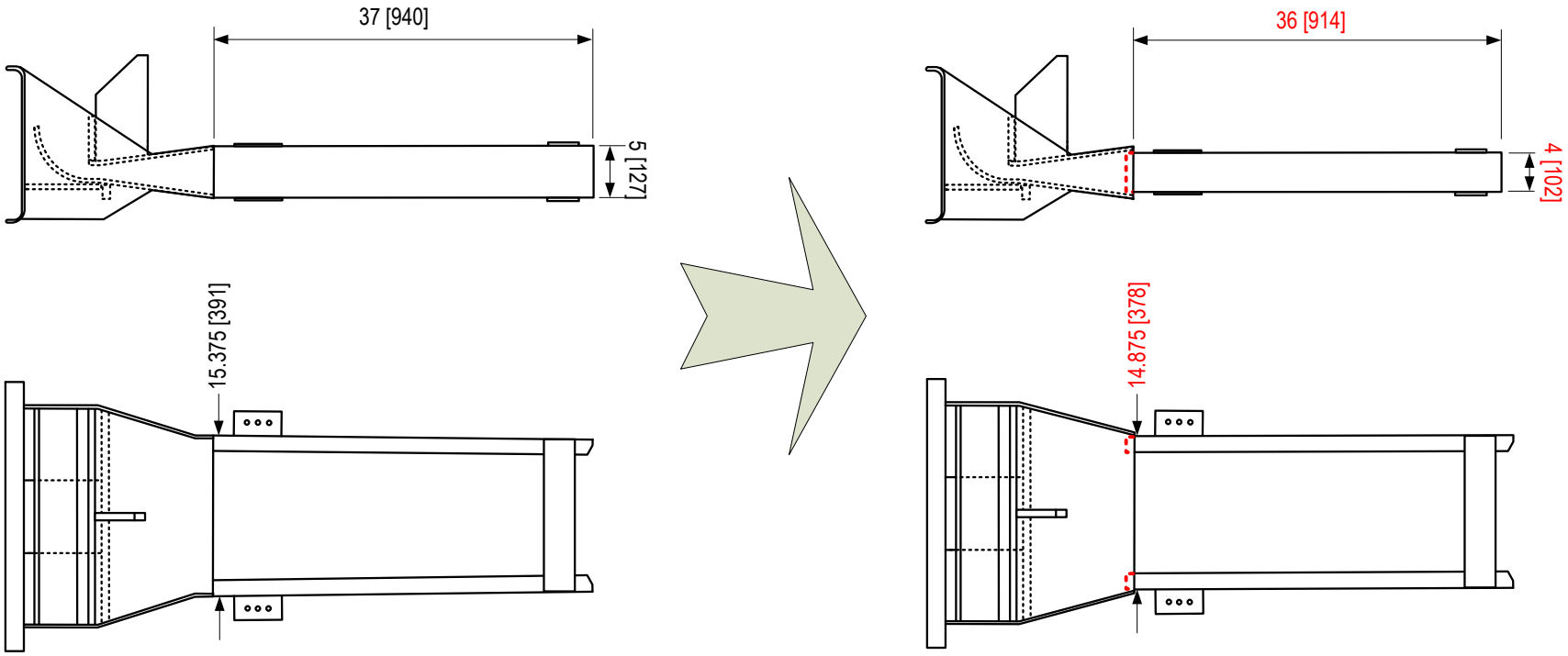
SPIG

Redesign Into Current Production

The current production ET-Plus with a feeder chute having 4 inch wide rails started to appear in 2005.

SPIG

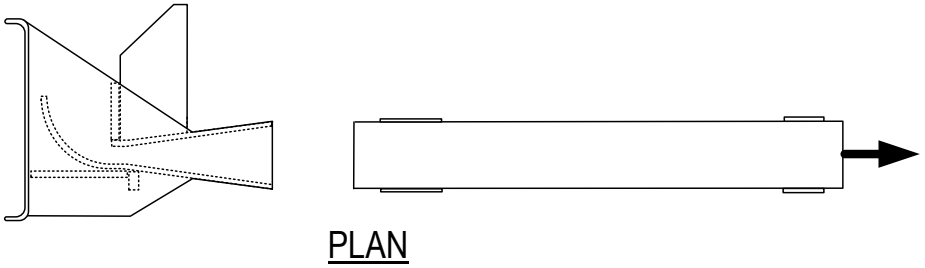
Redesign Into Current Production

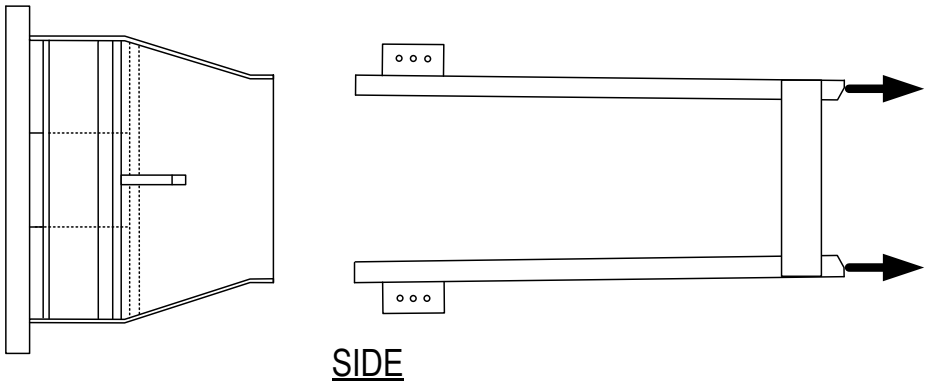


The following explains how a 2005 redesign changed an early production ET-Plus into a current production ET-Plus.

SPIG

Redesign Into Current Production

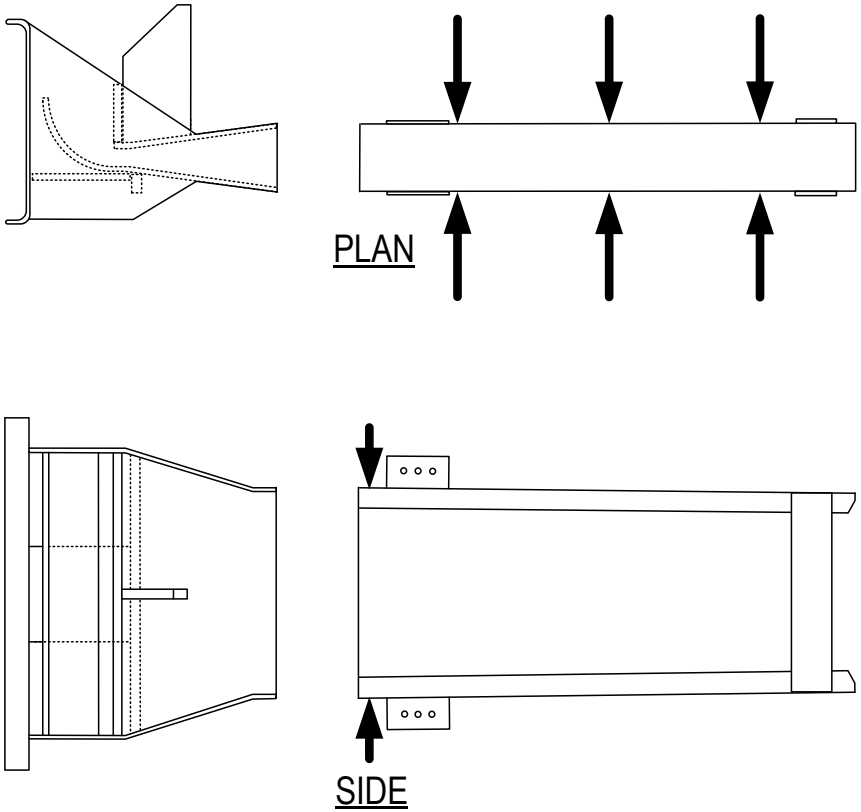




First, remove the feeder chute from the extruder throat.

SPIG

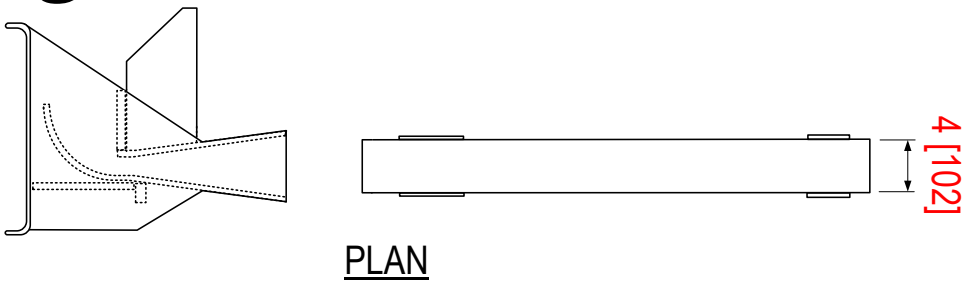
Redesign Into Current Production

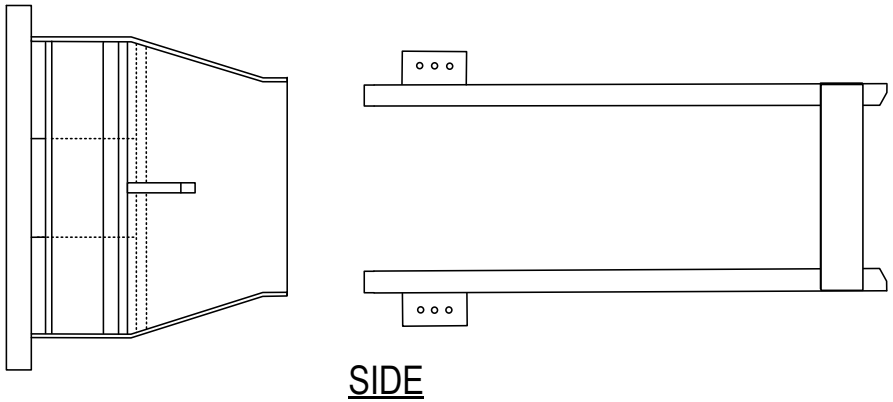


Reduce feeder chute width and height between rails.

SPIG

Redesign Into Current Production

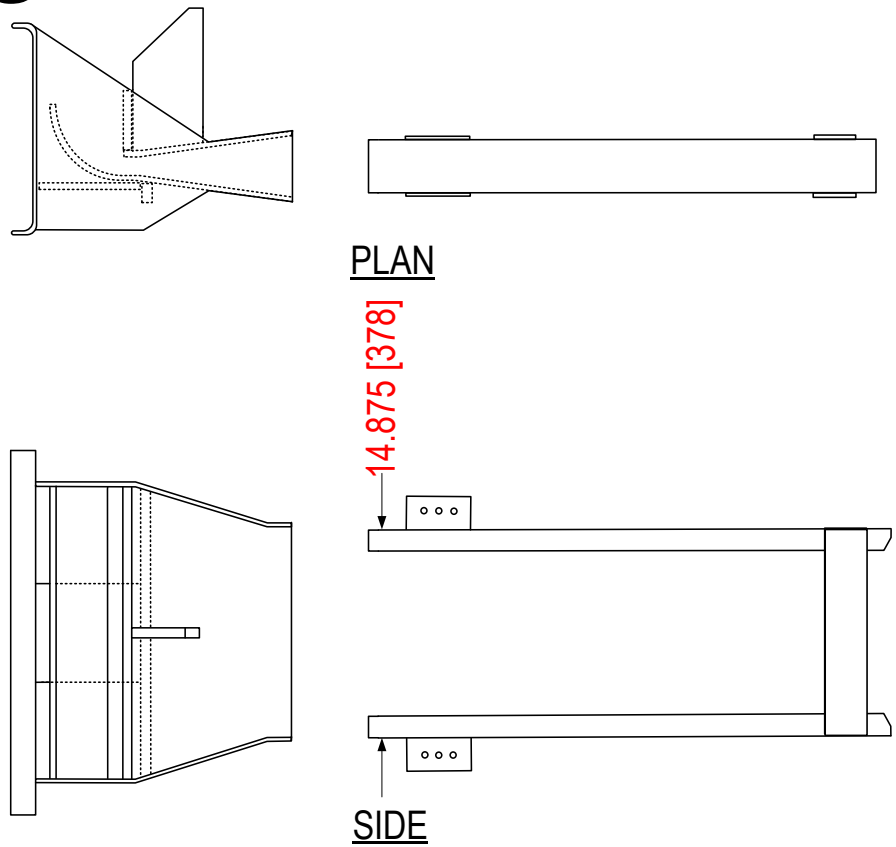




More specifically, reduce feeder chute width from 5 to 4 inches.

SPIG

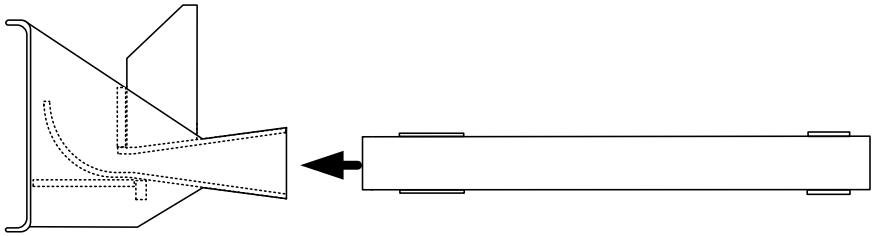
Redesign Into Current Production



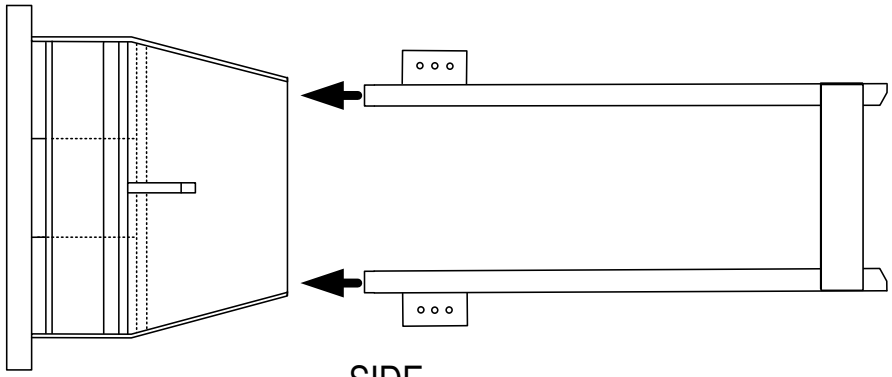
Reduce rail height from 15.375 to 14.875 inches.

SPIG

Redesign Into Current Production



PLAN

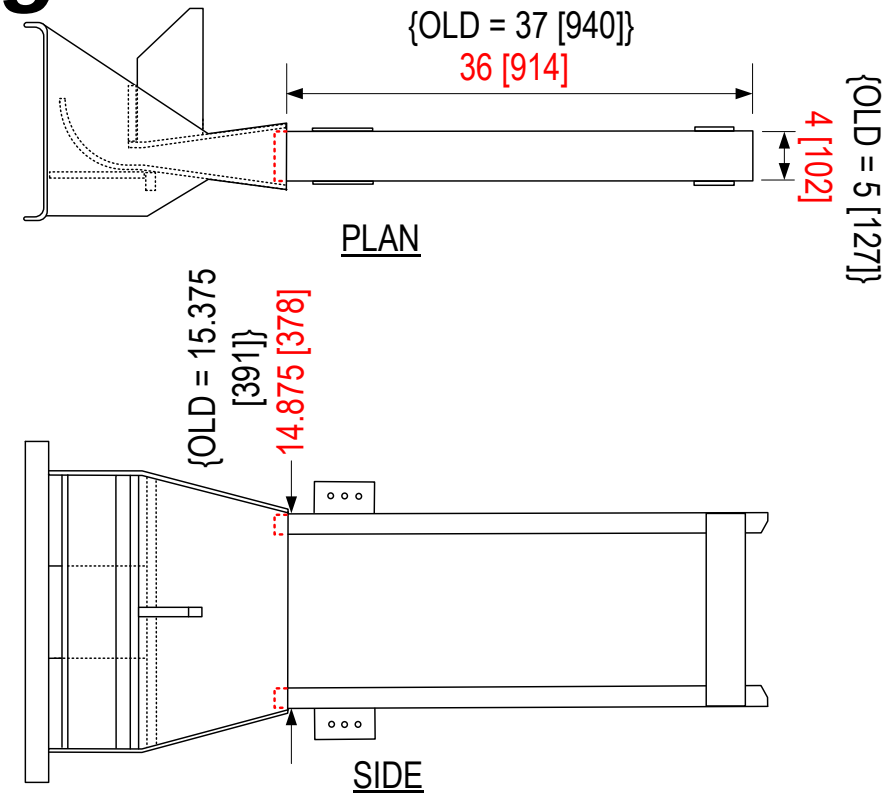


SIDE

Insert rails .75 inches deep into extruder throat.

SPIG

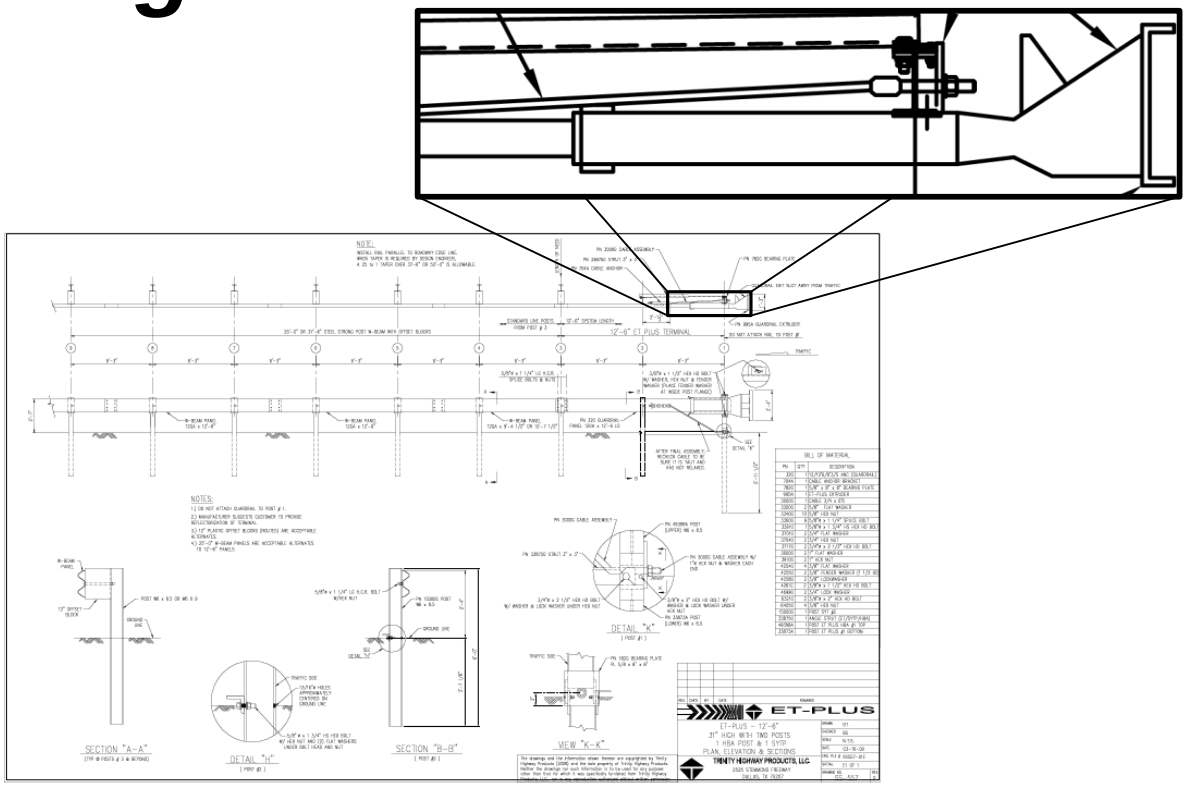
Redesign Into Current Production



The result is that the impact plate, deflector and extruder throat are the same as an earlier production ET-Plus but the feeder chute is shorter, narrower and intrudes into the extruder throat.

SPIG

Redesign Into Current Production

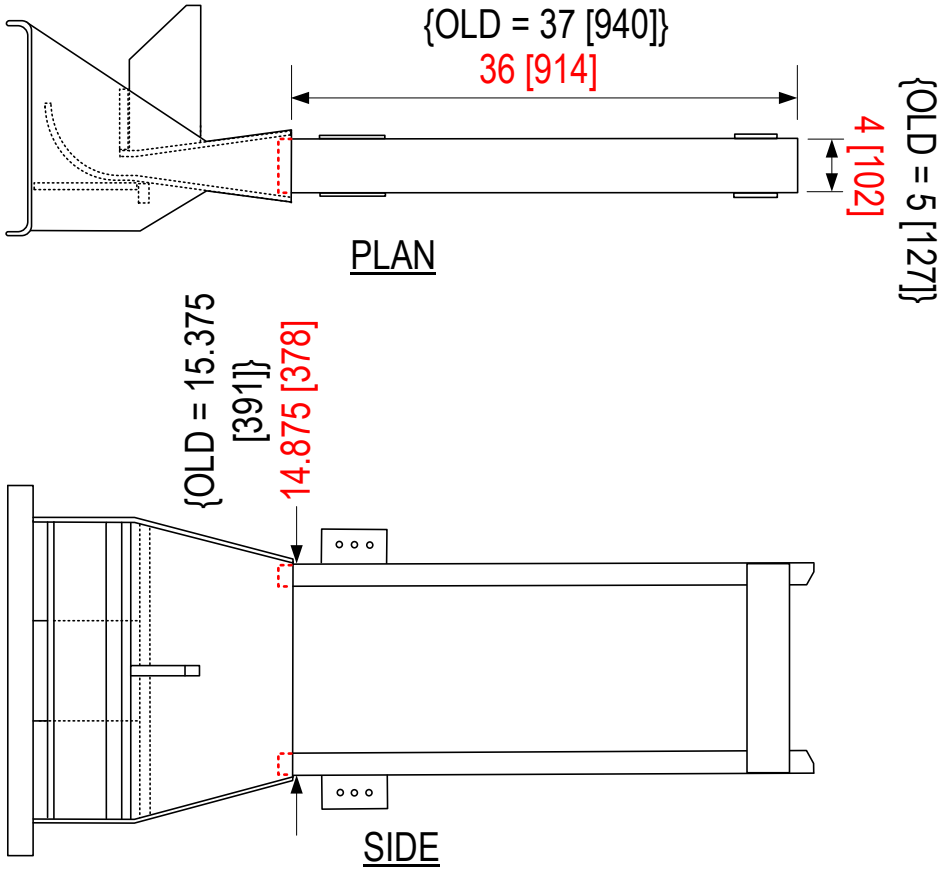


A design approval request sent to FHWA in October 2009 for a system having 31 inch high guardrail showed the ET-Plus as having a feeder chute with 5 inch wide feeder rails.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

Differences Between Productions



Differences of dimensions of feeder chute between productions.

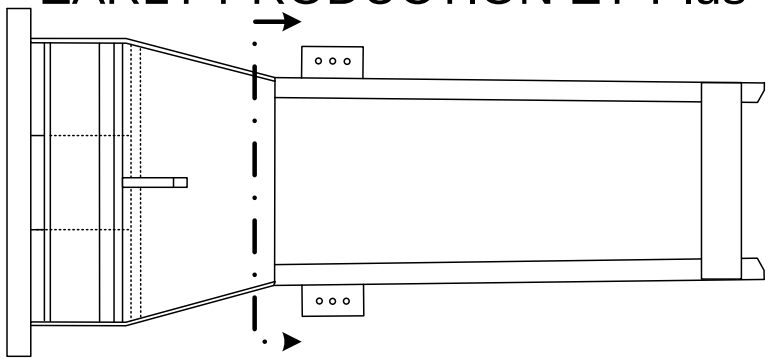
SPIG

Differences Between Productions

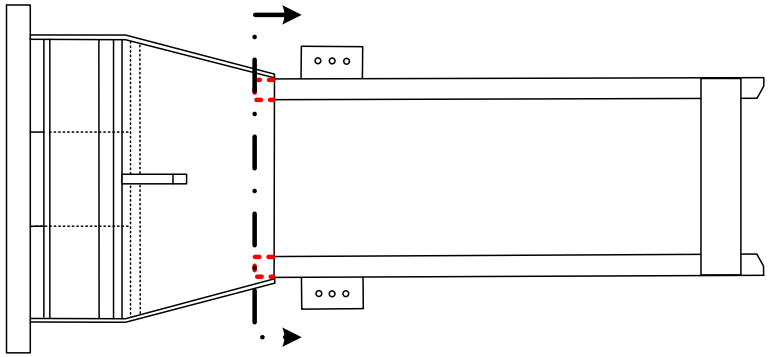
The insertion of the feeder chute into the extruder throat has caused changes to critical dimensions within the extruder throat that adversely effect performance.

Note positions for following cross-sections at .75 inches into the extruder throat from feeder chute for both.

EARLY PRODUCTION ET-Plus

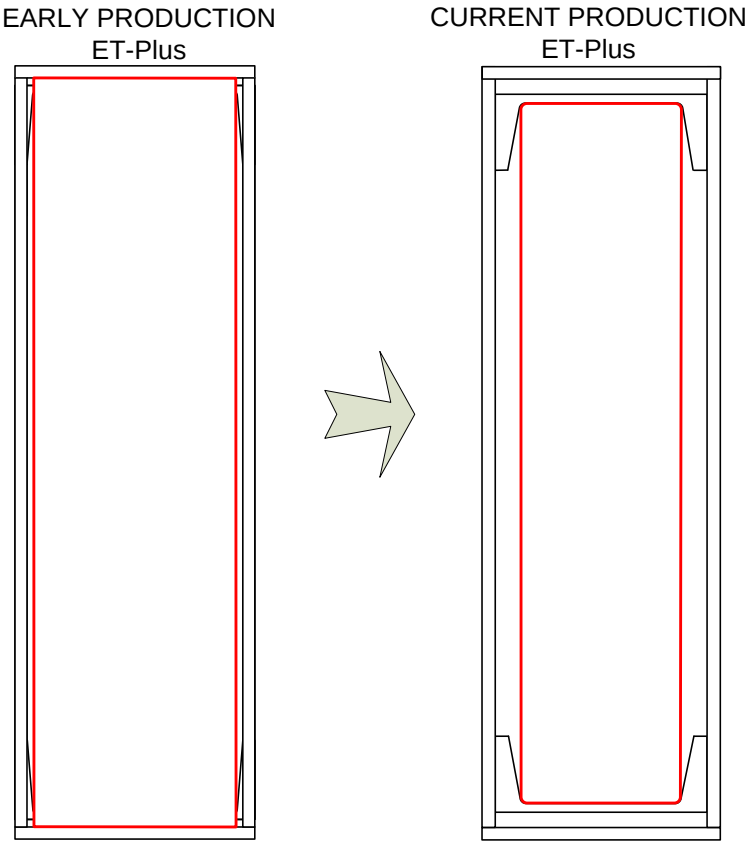


CURRENT PRODUCTION ET-Plus



SPIG

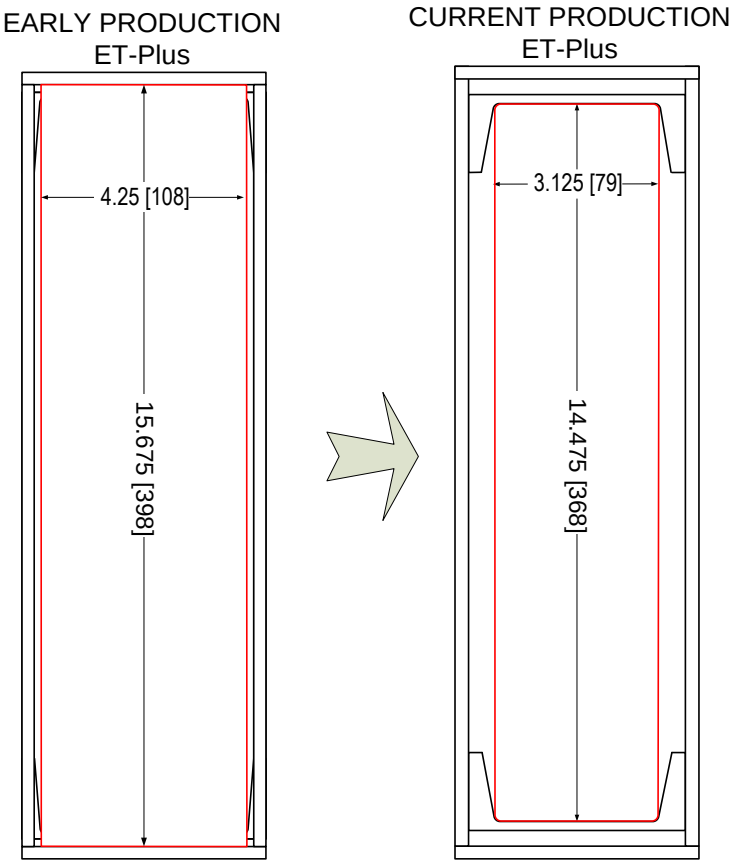
Differences Between Productions



Less area for guardrail in the extruder throat where the feeder chute ends in the extruder throat.

SPIG

Differences Between Productions

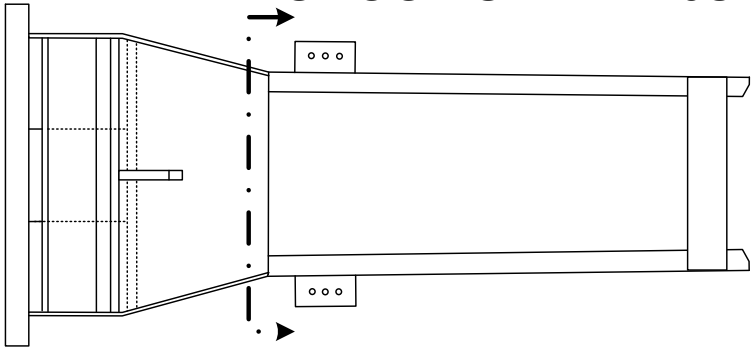


Dimensions at .75 inches within extruder throat are different.

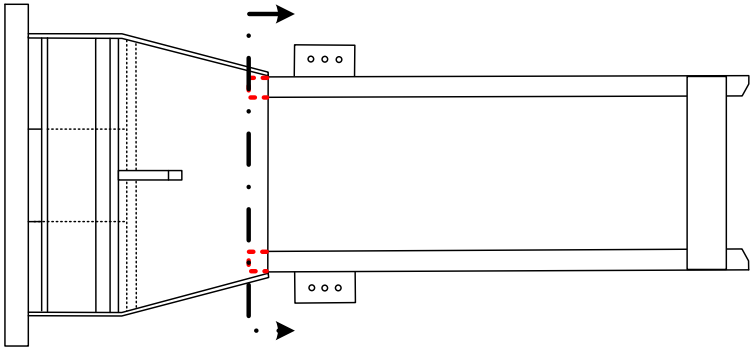
SPIG

Differences Between Productions

EARLY PRODUCTION ET-Plus



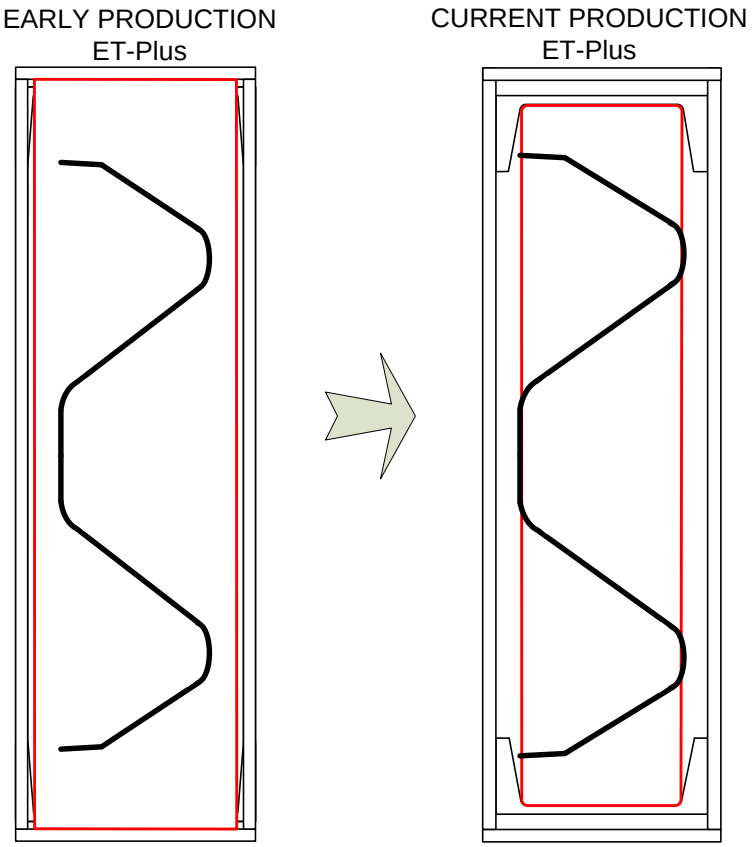
CURRENT PRODUCTION ET-Plus



Note positions of the cross-sections again.

SPIG

Differences Between Productions



Change of area relative to guardrail without a dynamic compression plume.

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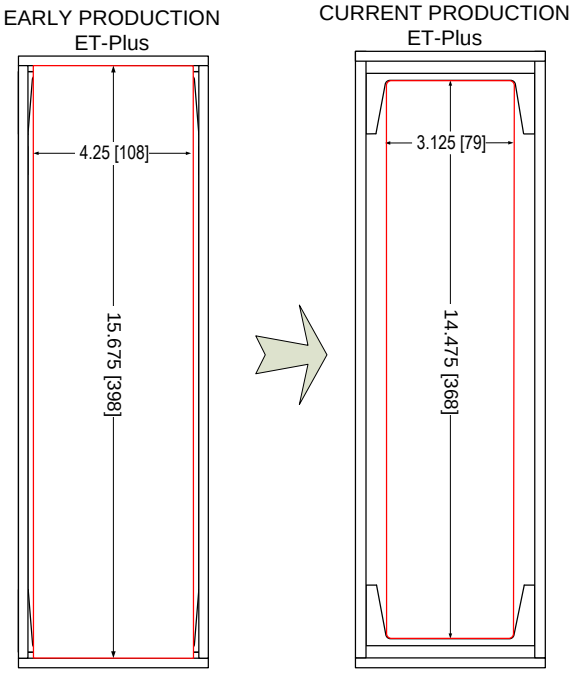
SPIG

Differences Between Productions



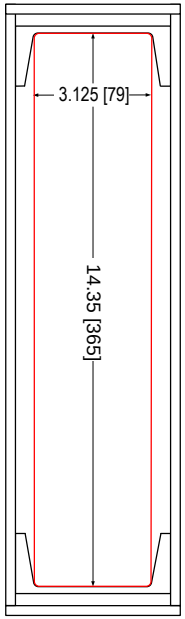
4.25"	to	3.125"	=	~26% WIDTH REDUCTION
15.675"	to	14.475"	=	~7.6% HEIGHT REDUCTION
67"	to	45"	=	~33% REDUCTION IN AREA

The ~7.6% height reduction at .75 inches inside of the extruder throat from the feeder chute can drastically impact performance.

SPIG

Differences Between Productions

CURRENT PRODUCTION
ET-Plus

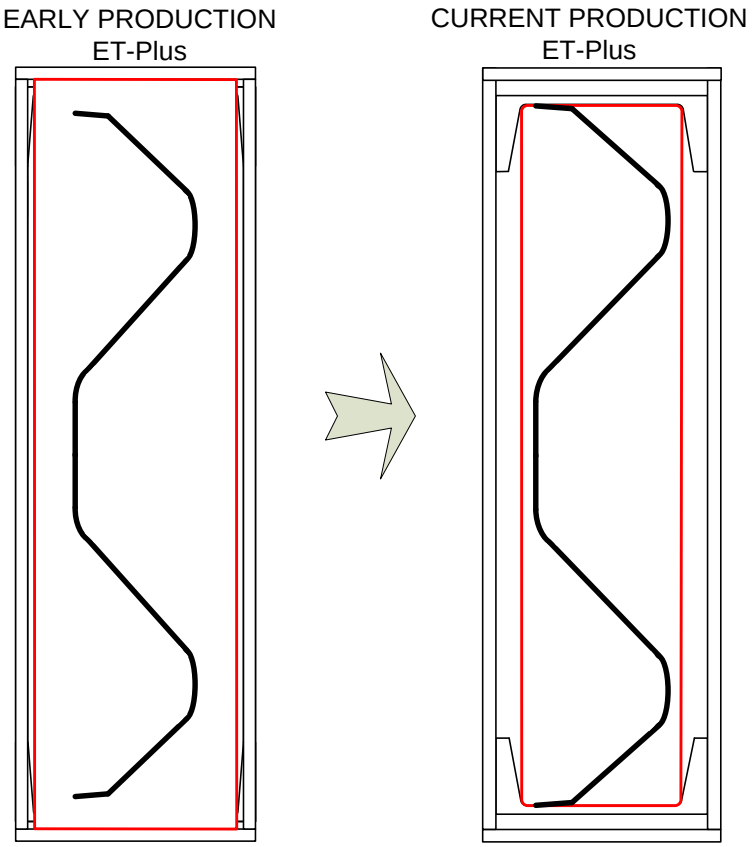


15.675" to 14.35" = ~8.5% HEIGHT REDUCTION

Some current production ET-Plus out on the highways now show a ~8.5% height reduction at .75 inches inside of the extruder throat from the feeder chute.

SPIG

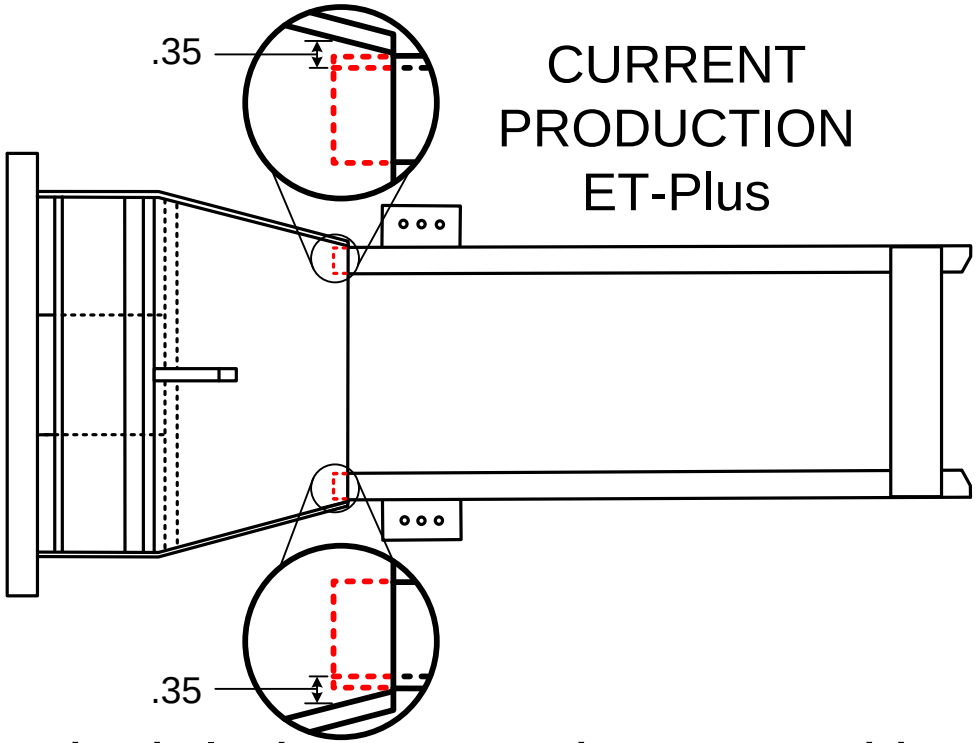
Differences Between Productions



The shorter height of the current production ET-Plus limits the expansion of the dynamic compression plume.

SPIG

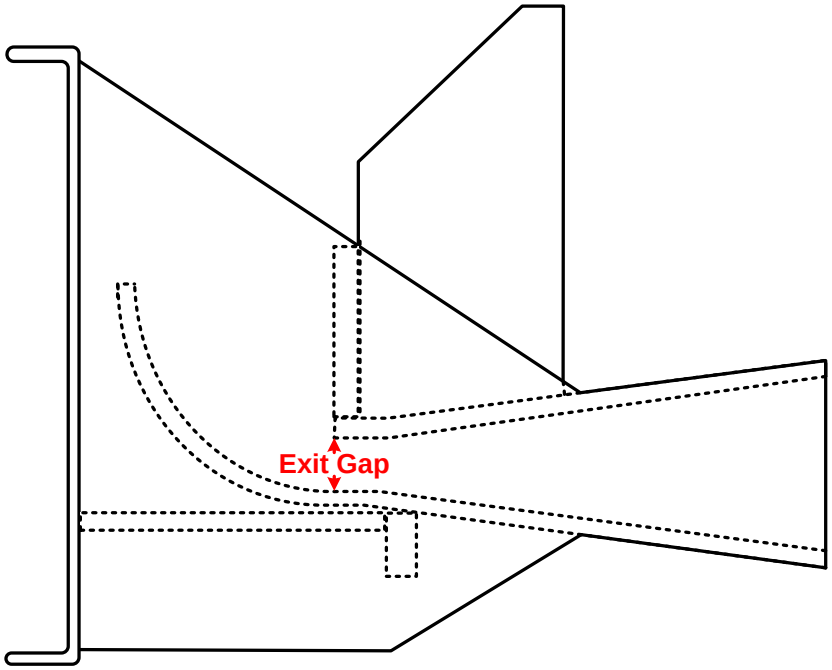
Differences Between Productions



There are ~.35 inch ledges near the top and bottom of the extruder throat at .75 inches inside of the extruder throat from due to the feeder chute intrusion that can drastically impact performance.

SPIG

Differences Between Productions



The exit gap of current production ET-PLUS now has manufacturing variances between 1 to 1.2 inches.

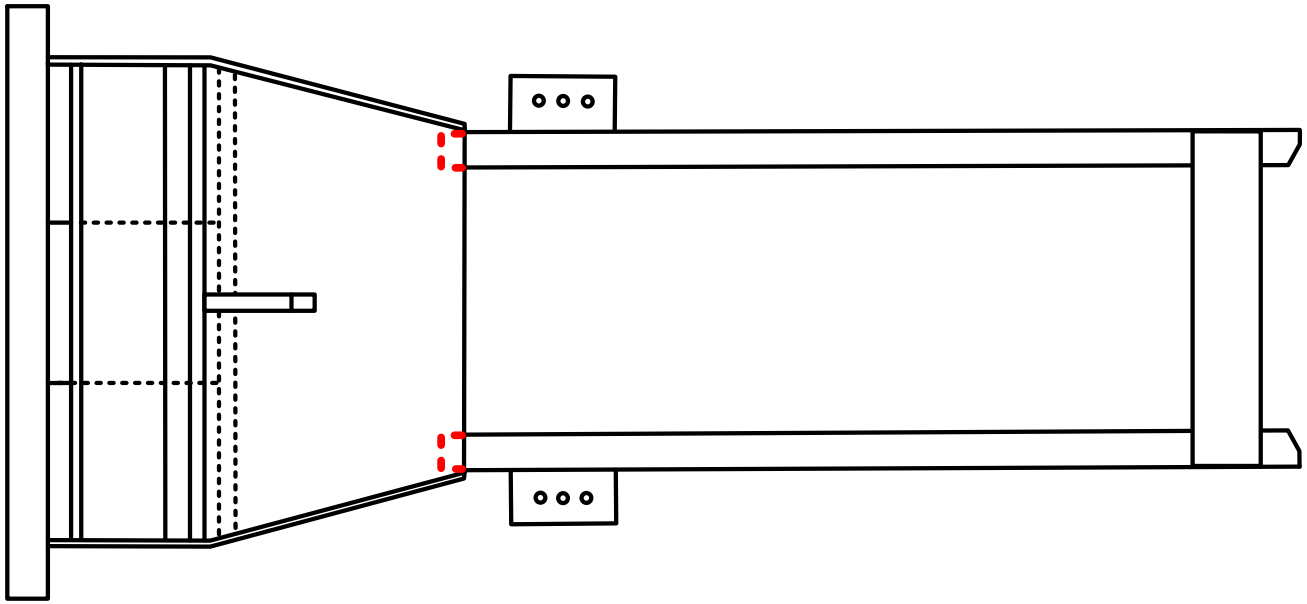
SPIG

Current Production Fails To Feed

The current production ET-Plus started to appear in 2005.

SPIG

Current Production Fails To Feed

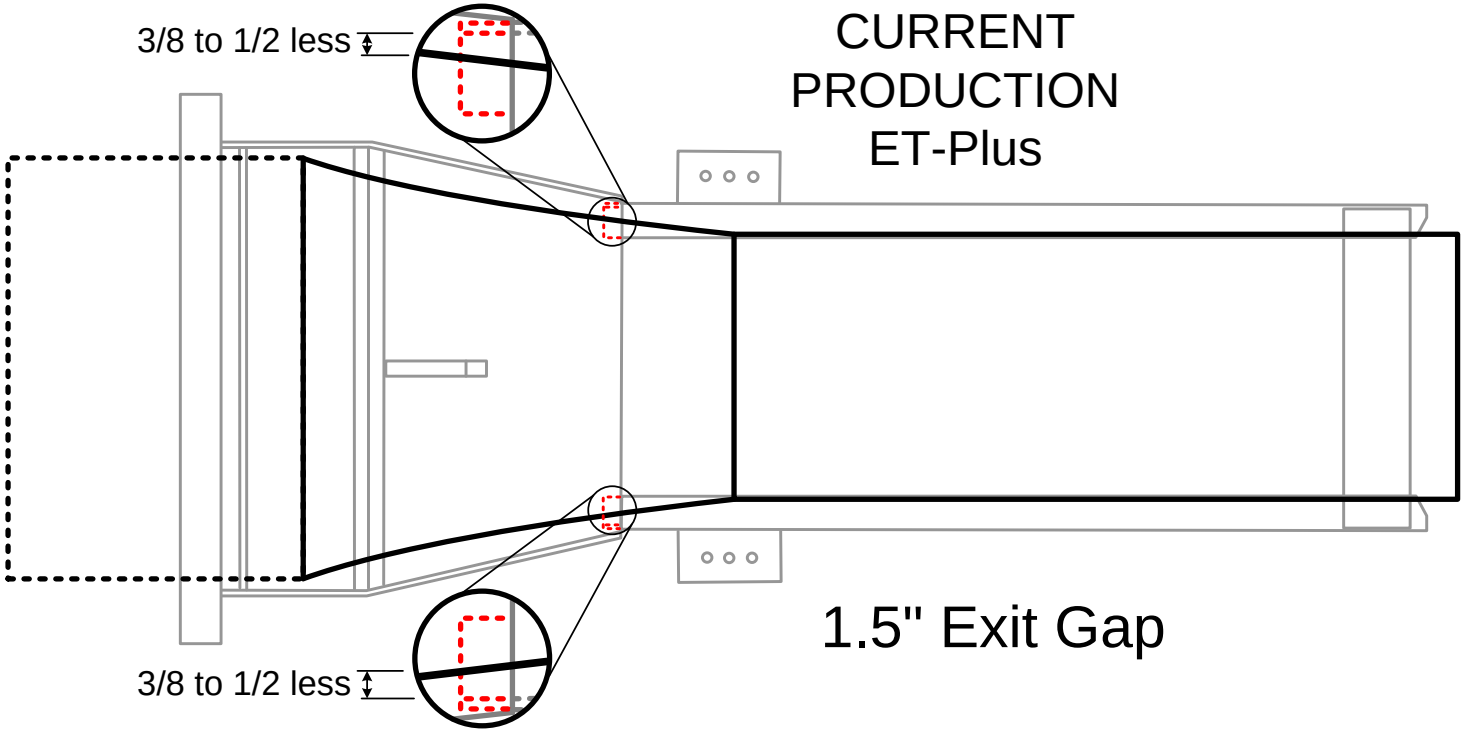


The height reduction of at least 1.2 inches at .75 inches within the extruder throat coupled with reduction in the exit gap of the extruder throat to below 1.3 inches cause the guardrail to “Throat Lock” in the extruder throat during an impact.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

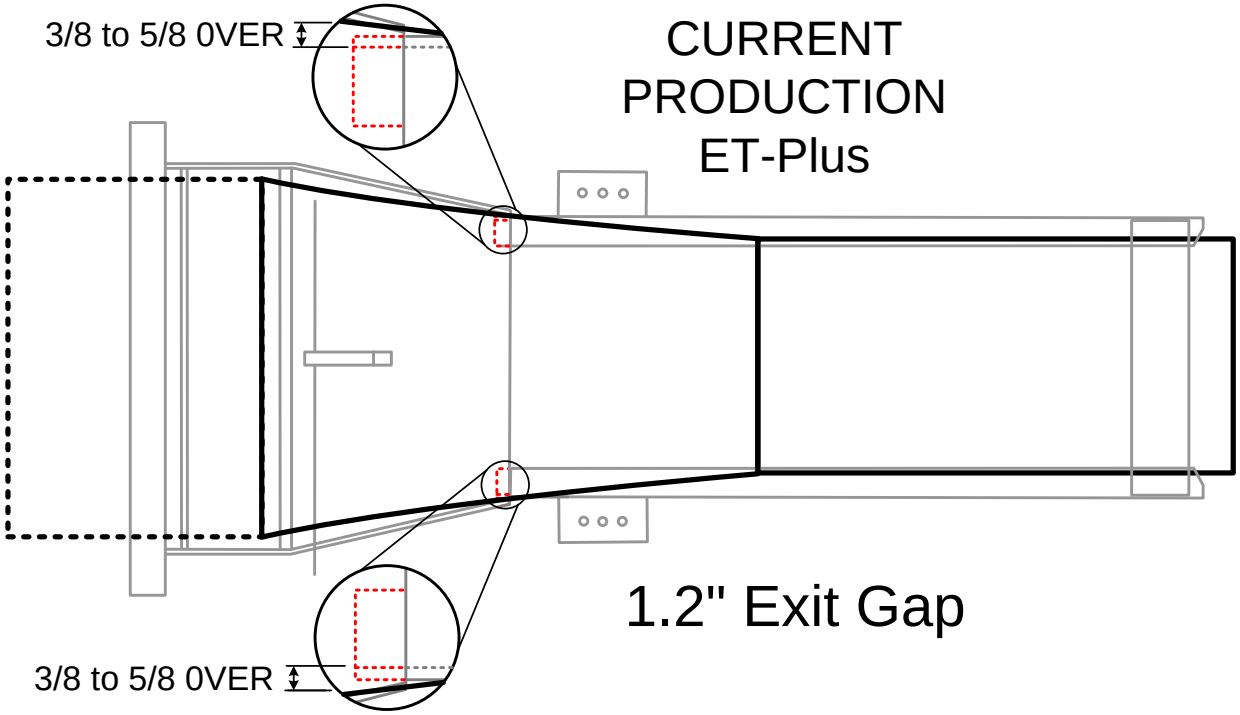
Current Production Fails To Feed



When the exit gap of the extruder throat is 1.5 inches, the resultant dynamic compression plume is well within the top and bottom feed rails within the extruder throat.

SPIG

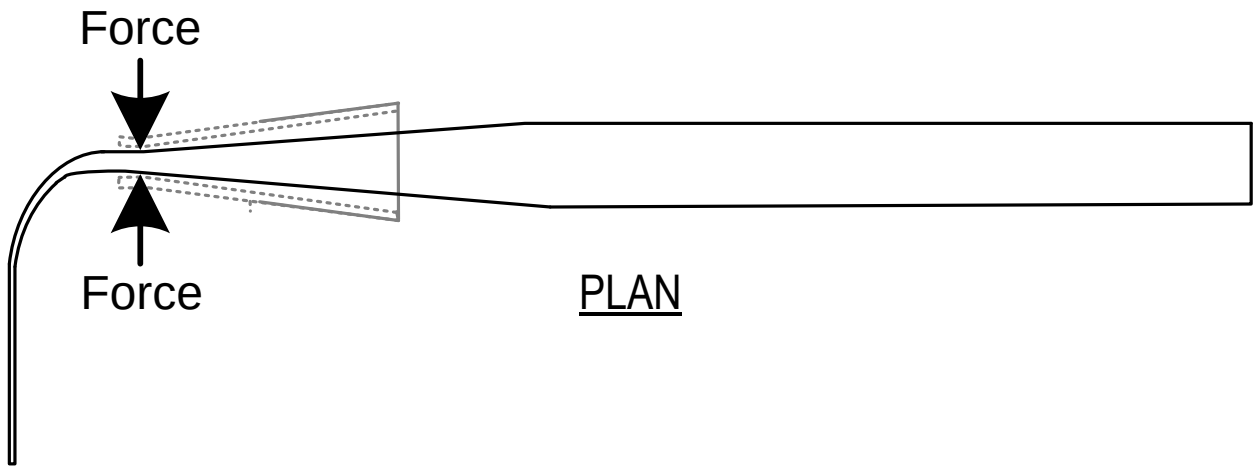
Current Production Fails To Feed



When the exit gap of the extruder throat is 1.2 inches, the resultant dynamic compression plume is beyond the top and bottom feed rails within the extruder throat by ¾ to 1.25 inches.

SPIG

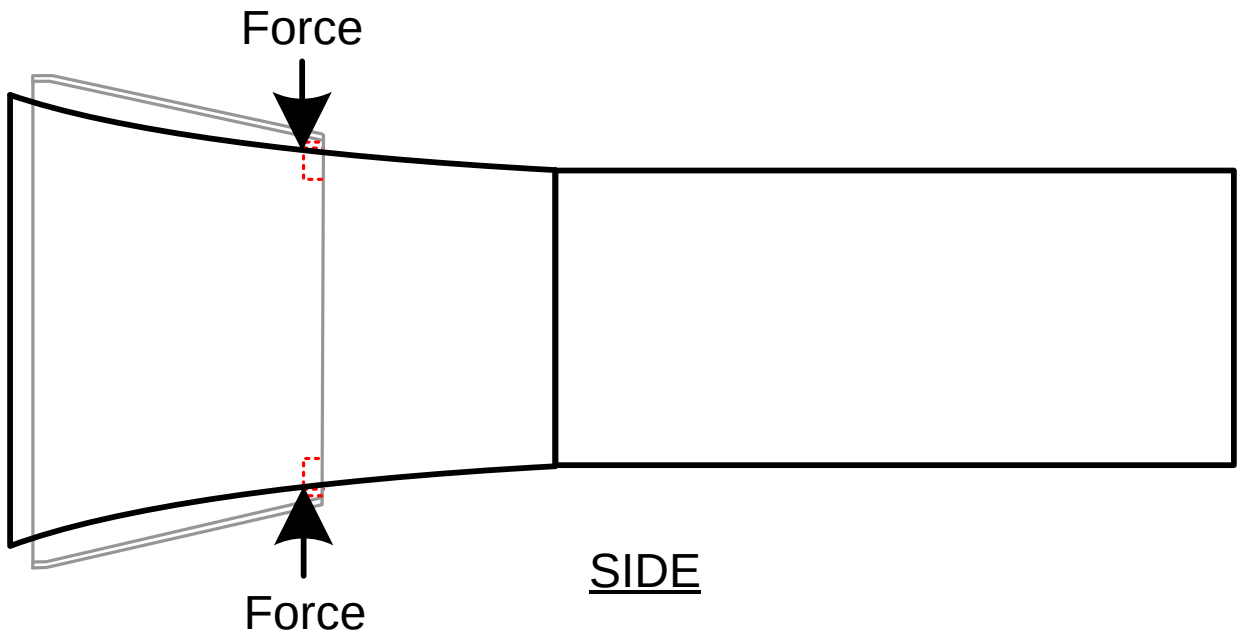
Current Production Fails To Feed



Thus, in addition to the horizontal compressing forces from the extruder throat that create the dynamic compression plume,…

SPIG

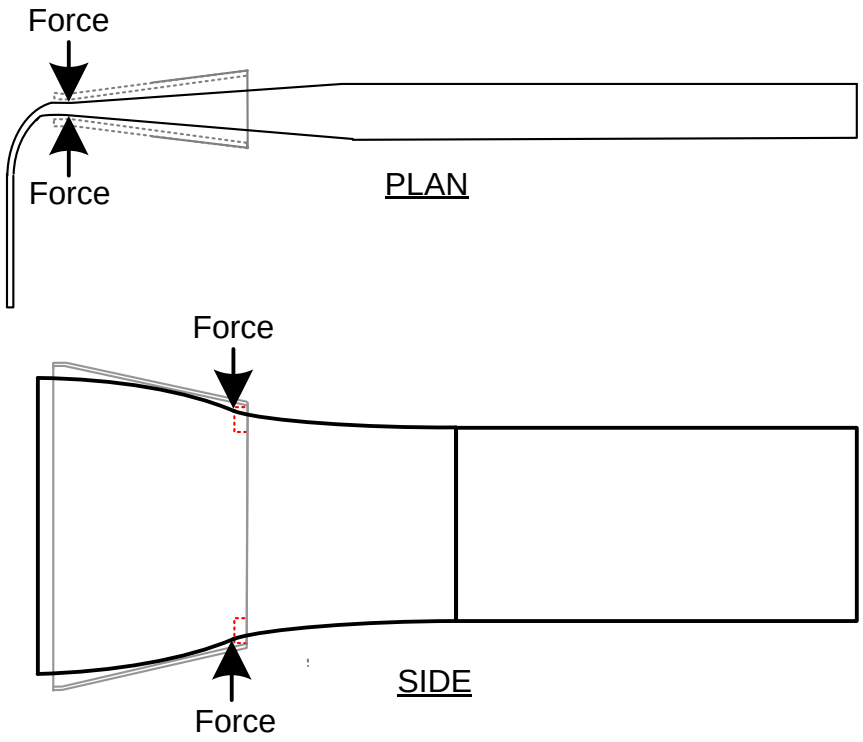
Current Production Fails To Feed



…there are also vertical constraining forces on the dynamic compression plume due to the ends of the feeder rails intruding into the extruder throat by ¾ inches.

SPIG

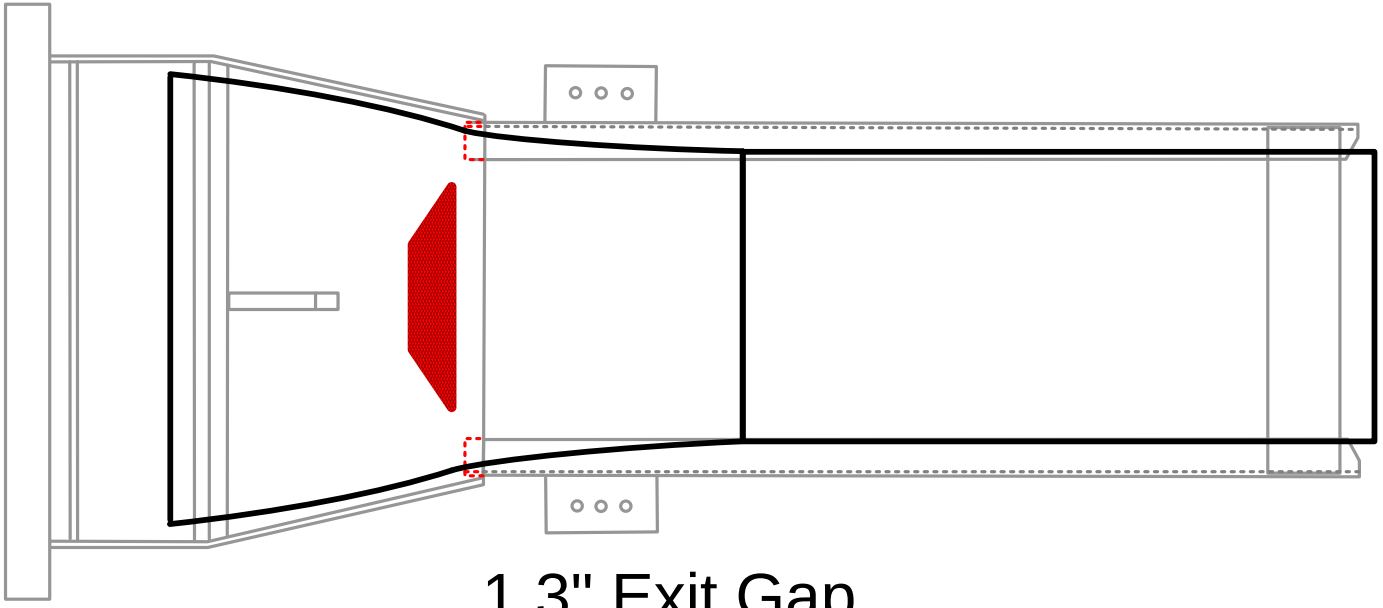
Current Production Fails To Feed



The vertical constraining forces from the ends of the feeder rails deforms the natural shape of the dynamic compression plume resulting from the horizontal compressing forces.

SPIG

Current Production Fails To Feed

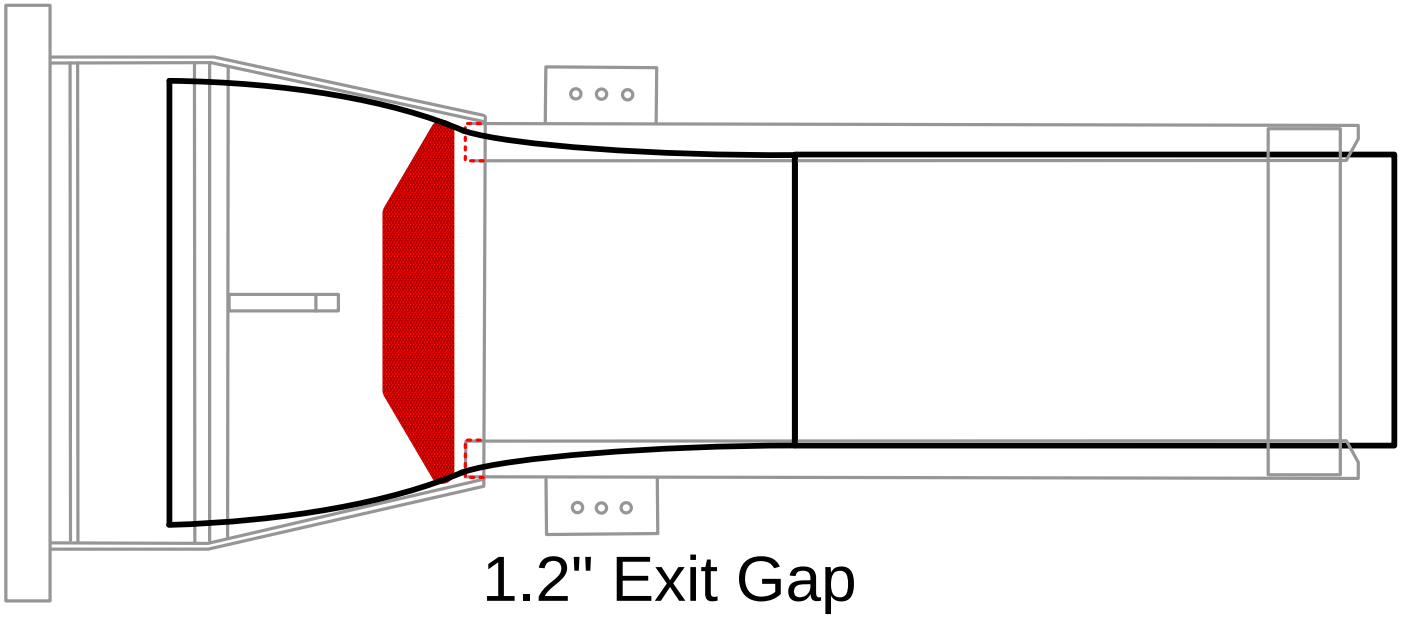


1.3" Exit Gap

The deformation of the natural dynamic compression plume creates a contortion zone in the guardrail within the extruder throat.

SPIG

Current Production Fails To Feed



1.2" Exit Gap

The contortion zone of a current production ET-Plus with 1.2 inch exit gap will span across the distance between ends of the feeder rails in the extruder throat so as to cause the guardrail to lock up in the extruder throat during an impact.

SPIG

Current Production Fails To Feed

This is an example of throat lock that occurred in a current production ET-Plus with 1.2 inch exit gap during an impact.

SPIG

Current Production Fails To Feed

This is an example of a current production ET-Plus with 1.2 inch exit gap that did not throat lock because…

SPIG

Current Production Fails To Feed

…the rail bent over at the top of the guardrail.

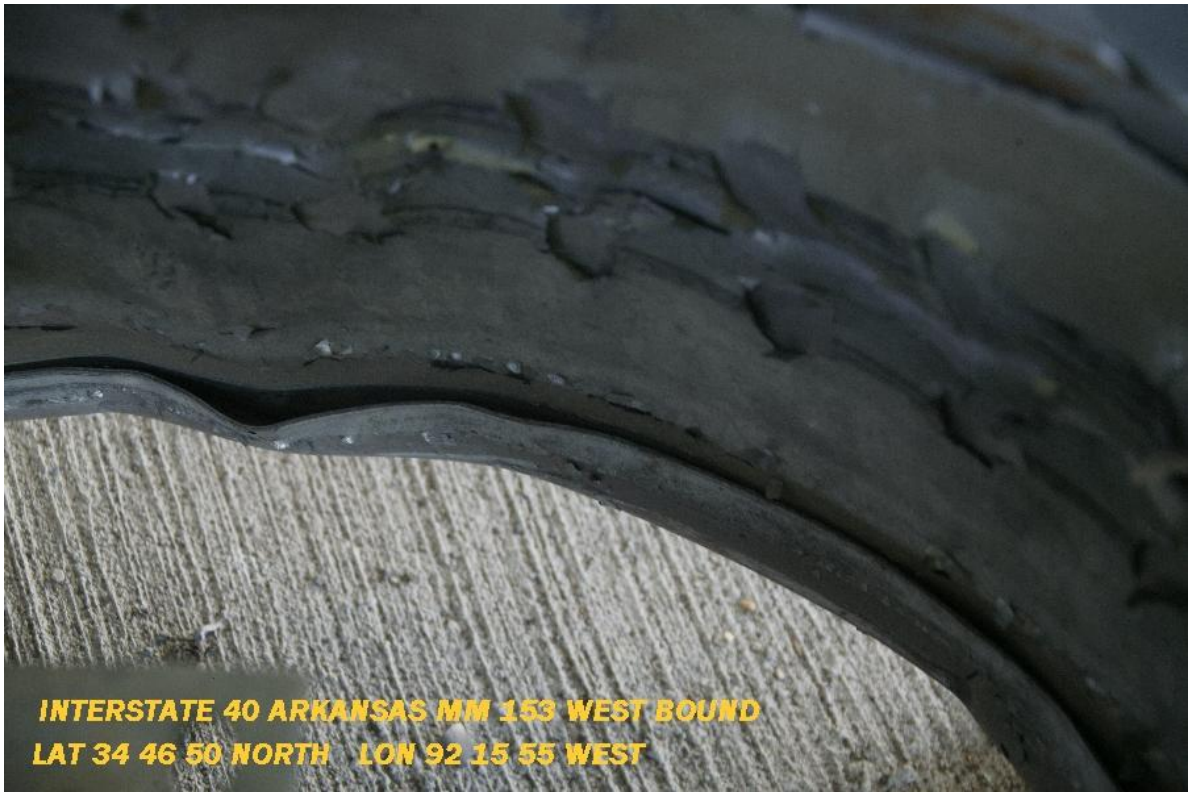
SPIG

Current Production Fails To Feed

Then, this current production ET-Plus failed at the guardrail splice.

SPIG

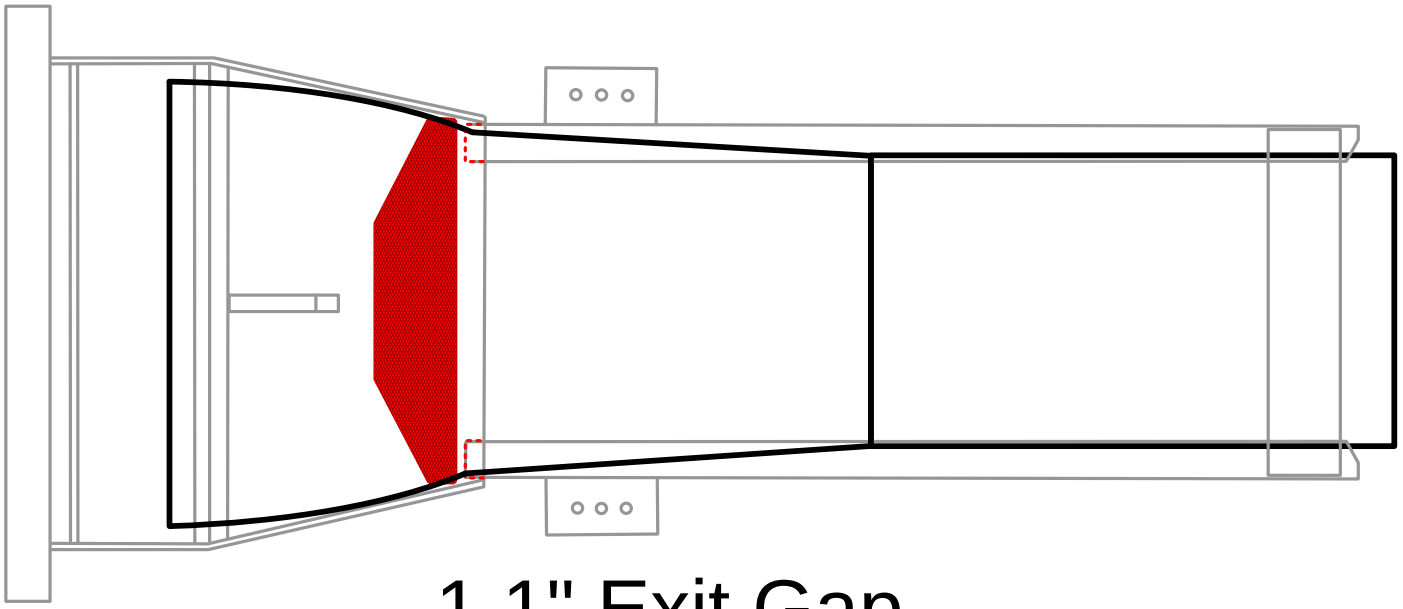
Current Production Fails To Feed



This guardrail bent over at the bottom, fed through the extruder throat some distance, and then throat locked.

SPIG

Current Production Fails To Feed



1.1" Exit Gap

The contortion zone of a current production ET-Plus with 1.1 inch exit gap is even larger and thus is more likely to throat lock quicker during an impact.

SPIG

Current Production Fails To Feed

This is an example of throat lock that occurred in a current production ET-Plus with 1.1 inch exit gap during an impact.

SPIG

Current Production Fails To Feed

This is an example of throat lock that occurred in a current production ET-Plus with 1.1 inch exit gap during an impact.

SPIG

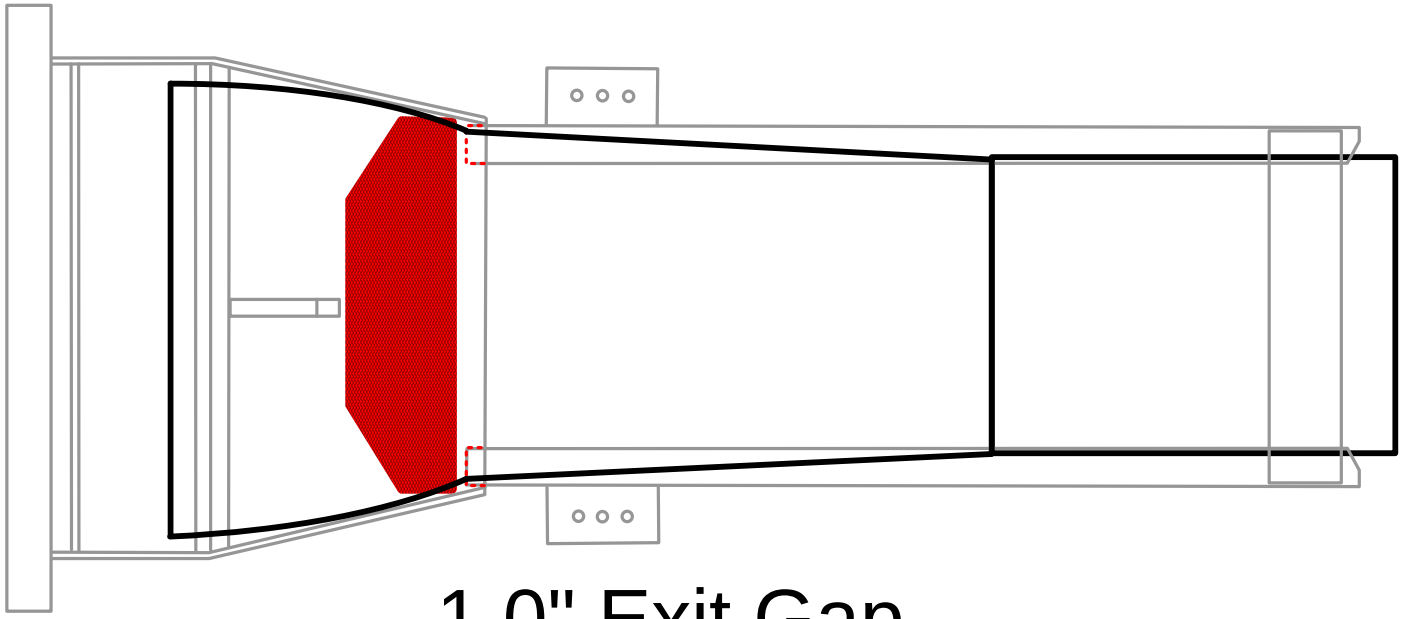
Current Production Fails To Feed

Note edge stress on guardrail ribbon of this throat locked current production ET-Plus with 1.1 inch exit gap.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

Current Production Fails To Feed

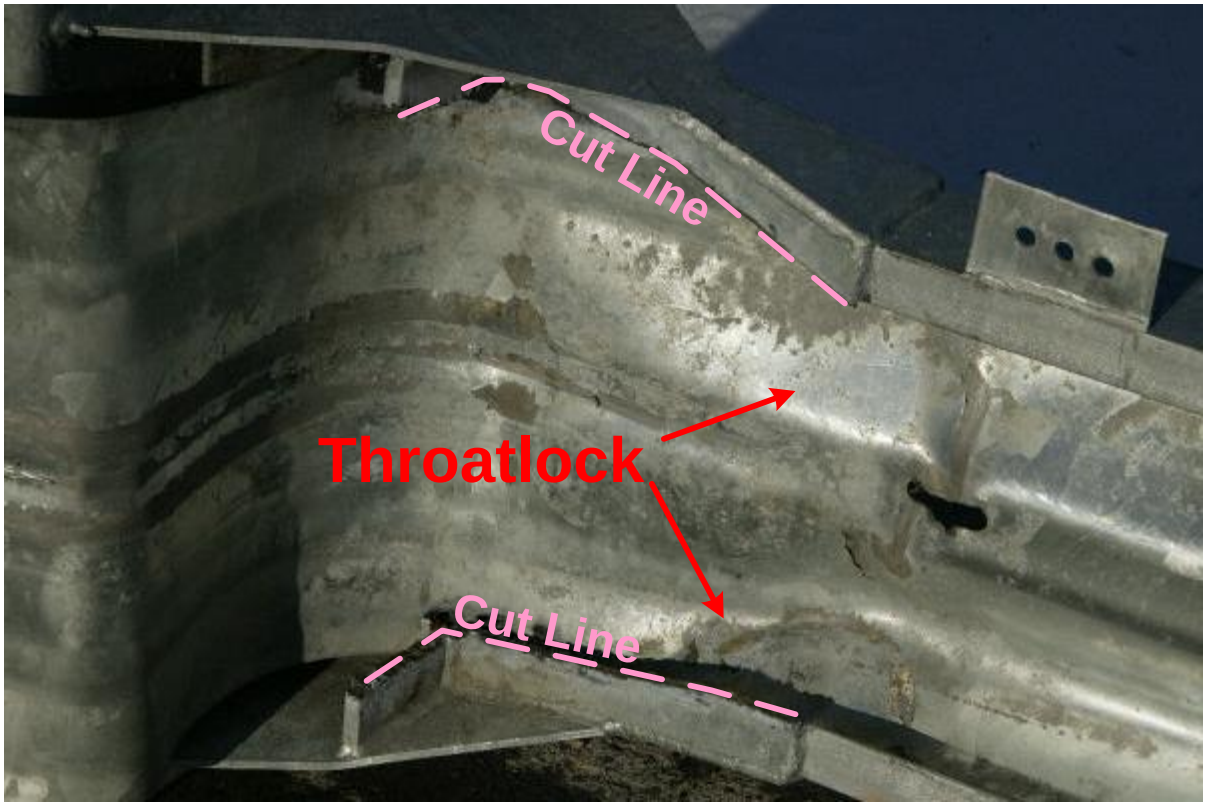


1.0" Exit Gap

The contortion zone of a current production ET-Plus with 1.0 inch exit gap is the largest.

SPIG

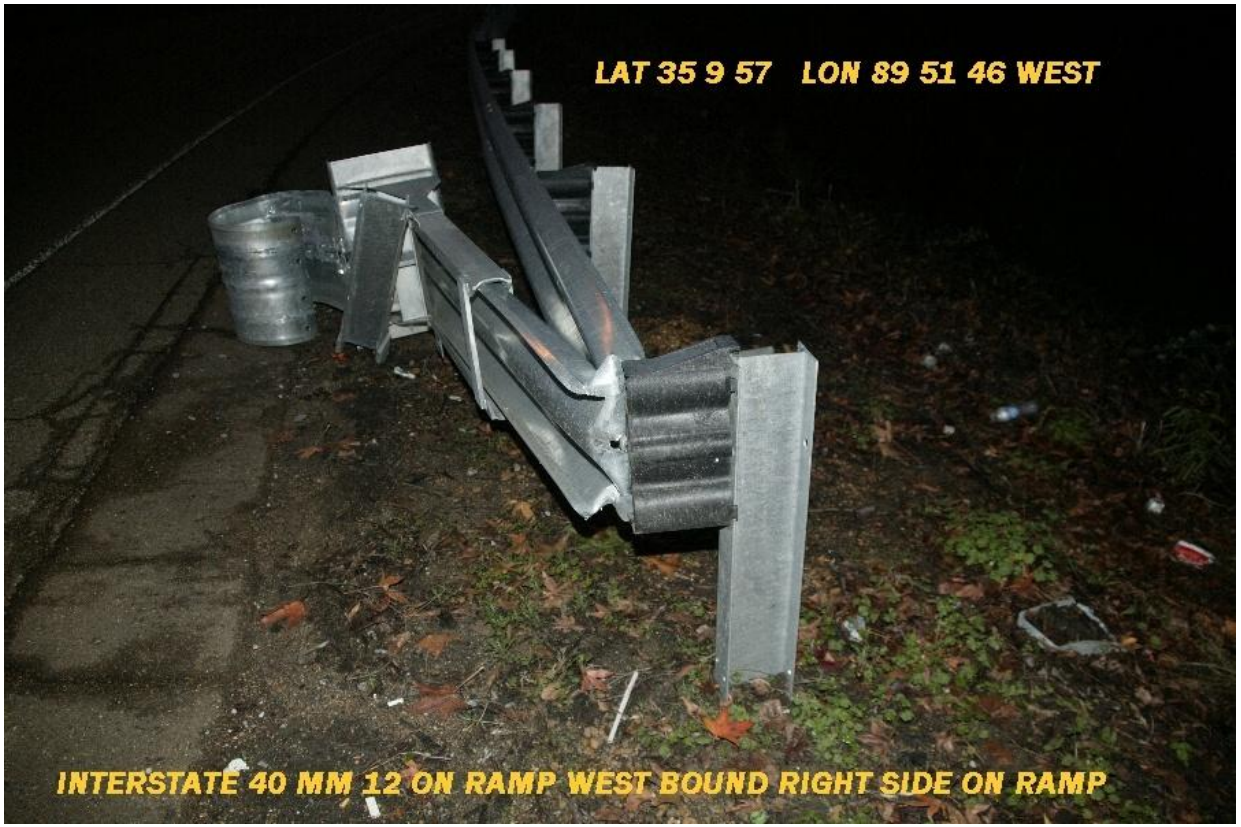
Current Production Fails To Feed



This is a current production ET-Plus that has been cut apart to show throat locked guardrail in the extruder throat.

SPIG

Other Thoughts



The blockout's lack of resilience may further contribute to throat lock in that the guardrail is allowed to flex.

ET-2000 and ET-Plus are trademarks of Trinity Industries

SPIG

Other Thoughts

The early release of the tension cable by the hinged breakaway post may also contribute to throat lock by not holding the guardrail tight at initial compression/deflection.

SPIG

Conclusion

- **A current production ET-Plus having an exit gap of less than 1.3 inches will have the guardrail throat lock in the extruder throat when impacted.**

SPIG

Overview

- ET-Plus Background
- Parts of Early Production ET-Plus
- Early Production ET-Plus Performance
- Redesign Into Current Production
- Differences Between Productions
- Current Production Fails To Feed
- Other Thoughts
- Conclusion
- Addendum
- Photo Appendix

Addendum

In this December 2011 picture of a throat locked current production ET-Plus with a 1.0 exit gap, the memorial is for…

SPIG

Addendum

… young lady killed in a 2008 accident involving another current production ET-Plus with 1.0 inch exit gap.

SPIG

Addendum

This current production ET-Plus had an exit gap of 1.1 inch and the guardrail is throat locked in the extruder head.

SPIG

Thank you
Questions ?

SPIG

Appendix

Guardrail compression in feeder chute of throat locked head.

SPIG

Appendix

Guardrail bulge in feeder chute of throat locked head.

SPIG

Appendix

Kinking guardrail at splice because of throat locked head.

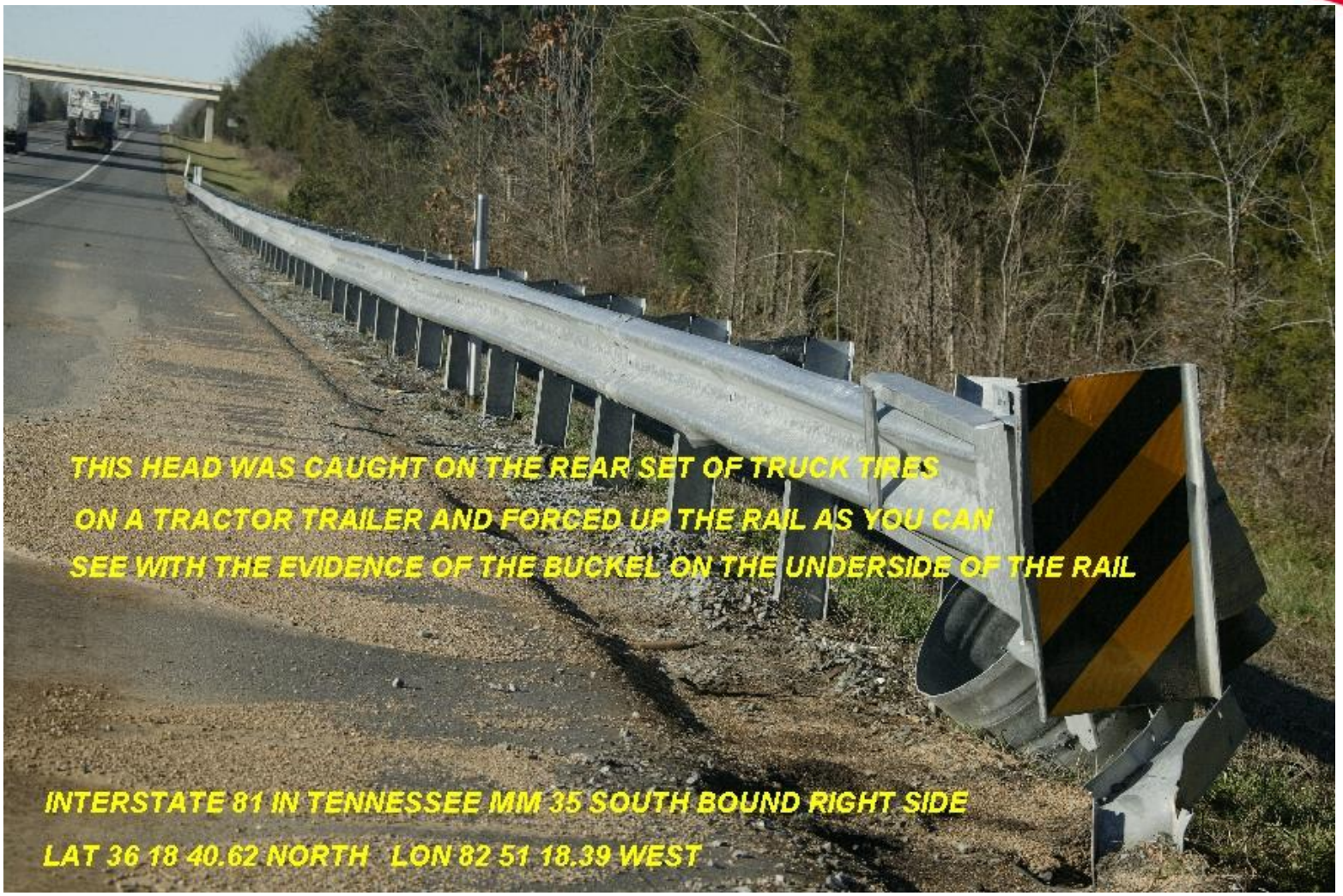
SPIG

Appendix

Guardrail compression in feeder chute of throat locked head.

SPIG

Appendix



SPIG

Appendix

SPIG

Appendix

SPIG

Appendix

Remnants of plume outside in the feeder chute.

SPIG

Appendix

Remnants of plume outside in the feeder chute.

SPIG

Appendix

Not even two feet.

SPIG

Appendix

Ran a good bit but…

SPIG

Appendix

…it had to fold the beam on itself and . . . .

SPIG

Appendix

…guardrail still throat locked in the extruder throat.

SPIG

Appendix

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Appendix

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Appendix

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Appendix

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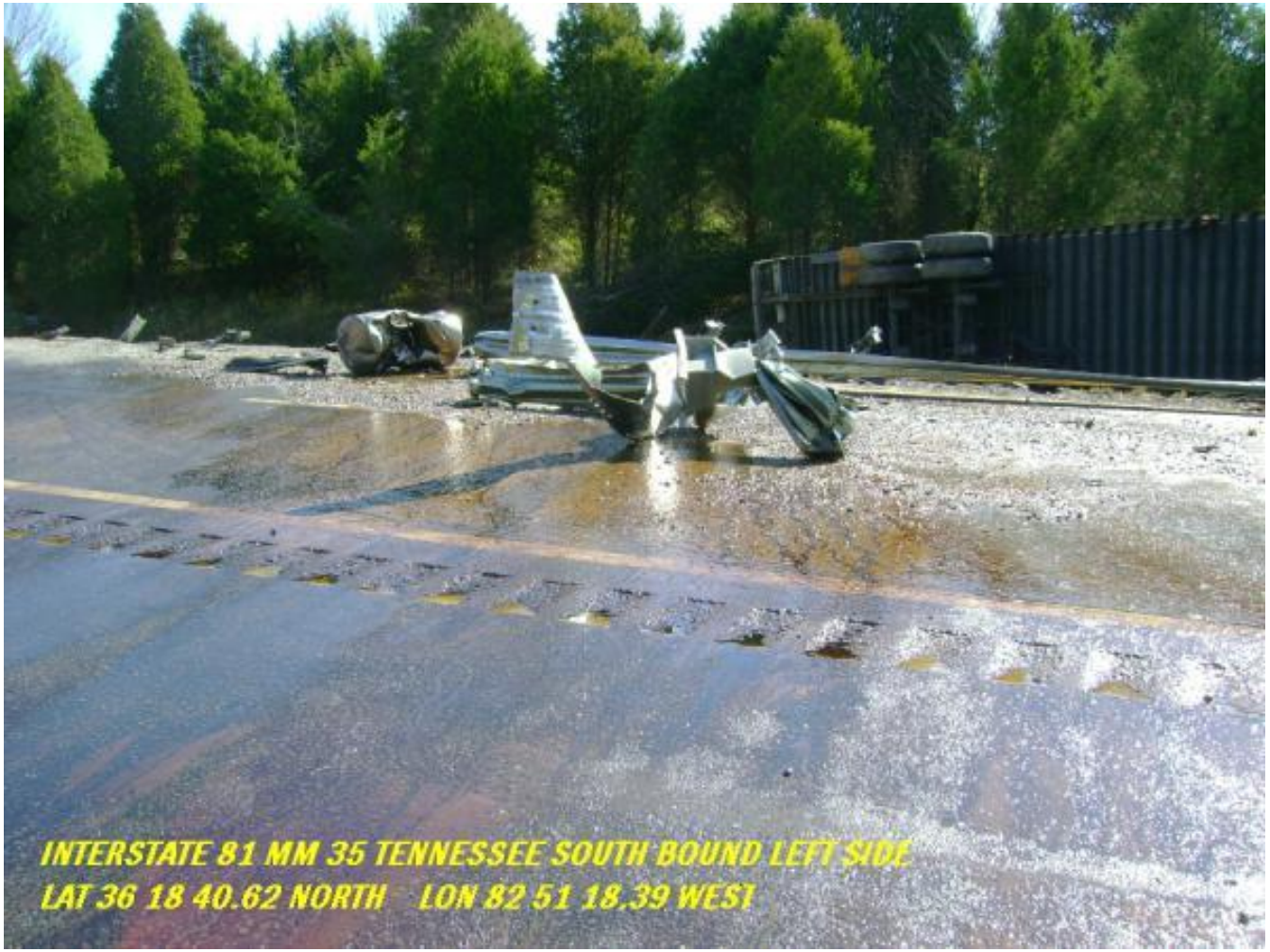
Appendix



SPIG

Appendix

Appendix

SPIG

Appendix

SPIG

Appendix

SPIG

U.S. Department of Transportation
Federal Highway Administration

400 Seventh St., S.W.
Washington, D.C. 20590

September 2, 2005

In Reply Refer To: HSA-10/CC-94

Mr. Steve L. Brown
President
Trinity Highway Safety Products Division
P.O. Box 568887
Dallas, Texas 75356-8887

Dear Mr. Brown:

In his August 10, 2005, letter to Mr. Richard Powers, Mr. Don Johnson requested Federal Highway Administration (FHWA) acceptance of a modified version of your ET-Plus guardrail terminal named the ET-Plus 31. The modifications noted below were needed to match the ET-Plus terminal, which was originally tested with standard W-beam guardrail, to the Midwest Guardrail System (MGS). The MGS barrier was formally accepted as an National Cooperative Highway Research Program (NCHRP) Report 350 test level 3 (TL-3) barrier on March 1, 2005, (acceptance letter B-133). To verify the crashworthiness of the modified ET-Plus, the Texas Transportation Institute conducted the following two tests, which are described in that agency's July 2005 report, "NCHRP Report 350 Testing of the ET-Plus for 30-inch High W-Beam Guardrail":

- Report 350 test 3-30 (TTI Test 220601-2)
- Report 350 test 3-35 (TTI Test 220601-1)

To match the MGS barrier design, the following modifications, shown in Enclosure 1, were made to the original ET-Plus terminal:

1. The guardrail height was raised to 787 mm (31 inches) throughout the terminal length.
2. The depth of each offset block (beginning at post 3) was increased to 305 mm (12 inches).
3. The upper section of the Hinged Breakaway Anchor post was modified to accommodate the increased guardrail height.
4. A 3.8-m (12.5-ft) long W-beam rail, with anchor bracket holes, was used between posts 1 and 3. A special 2.86-m (9.375-ft) W-beam section begins at post 3 and results in a splice located midway between posts 4 and 5. Standard W-beam

sections with holes punched on 0.95 m (3.125 ft) centers are then used from mid-span of posts 4 and 5 and beyond. The terminal proper ends at post 7 (the first standard line post) making its total length 11.43 m (37.5 ft).

5. Ground-line weakening holes in the SYTP are located 810 mm (31.875 inches) from the top of each post. Since the overall post length is unchanged, each SYTP post is embedded approximately 1020 mm in the ground.
6. Modified SYTP posts are used for post positions 2 through 6.
7. Standard W6 x 8.5 line posts are used at post 7 and beyond.

The NCHRP Report 350 requires up to seven crash tests to determine the adequacy of a traffic barrier terminal at TL-3. However, since the original designs for attachment to standard W-beam guardrail have proven to be crashworthy, only those tests that are likely to be affected by the design changes noted above are considered necessary. You successfully completed test 3-30 (head-on test with the 820-kg car) and test 3-35 (20-degree impact with the pickup truck at post 3). Summary sheets for each of these tests are shown in Enclosure 2 to this letter.

The modifications described above are acceptable and the ET-Plus 31 may be considered a TL-3 design that can be used on the National Highway System (NHS) when connected to the MGS barrier. While the barrier itself is non-proprietary, your terminal is proprietary and remains subject to the conditions stated in Title 23, Code of Federal Regulations, Section 635.411 when used on Federal-aid highway projects, except exempt, non-NHS projects.

Sincerely yours,

/original signed by/

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

2 Enclosures

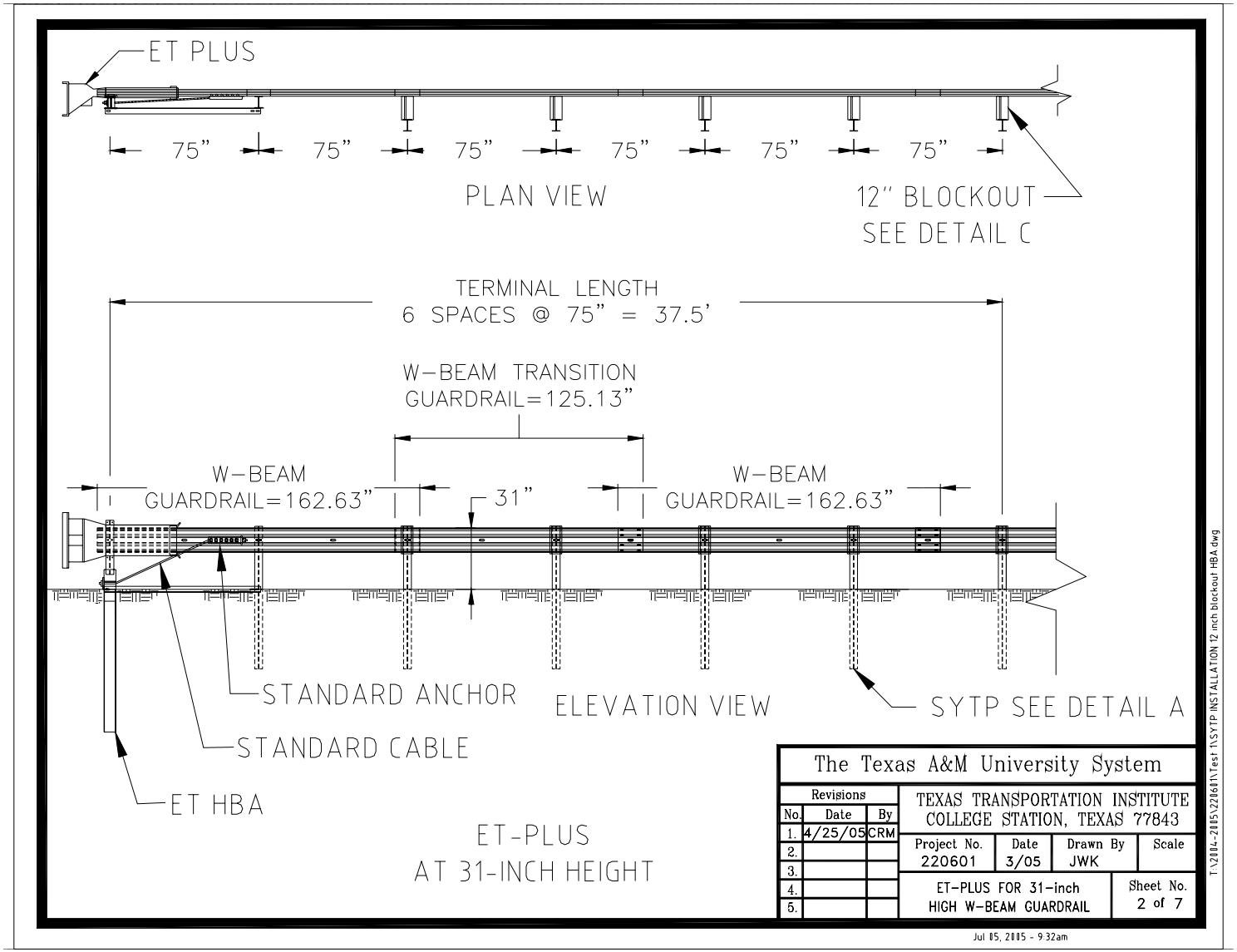
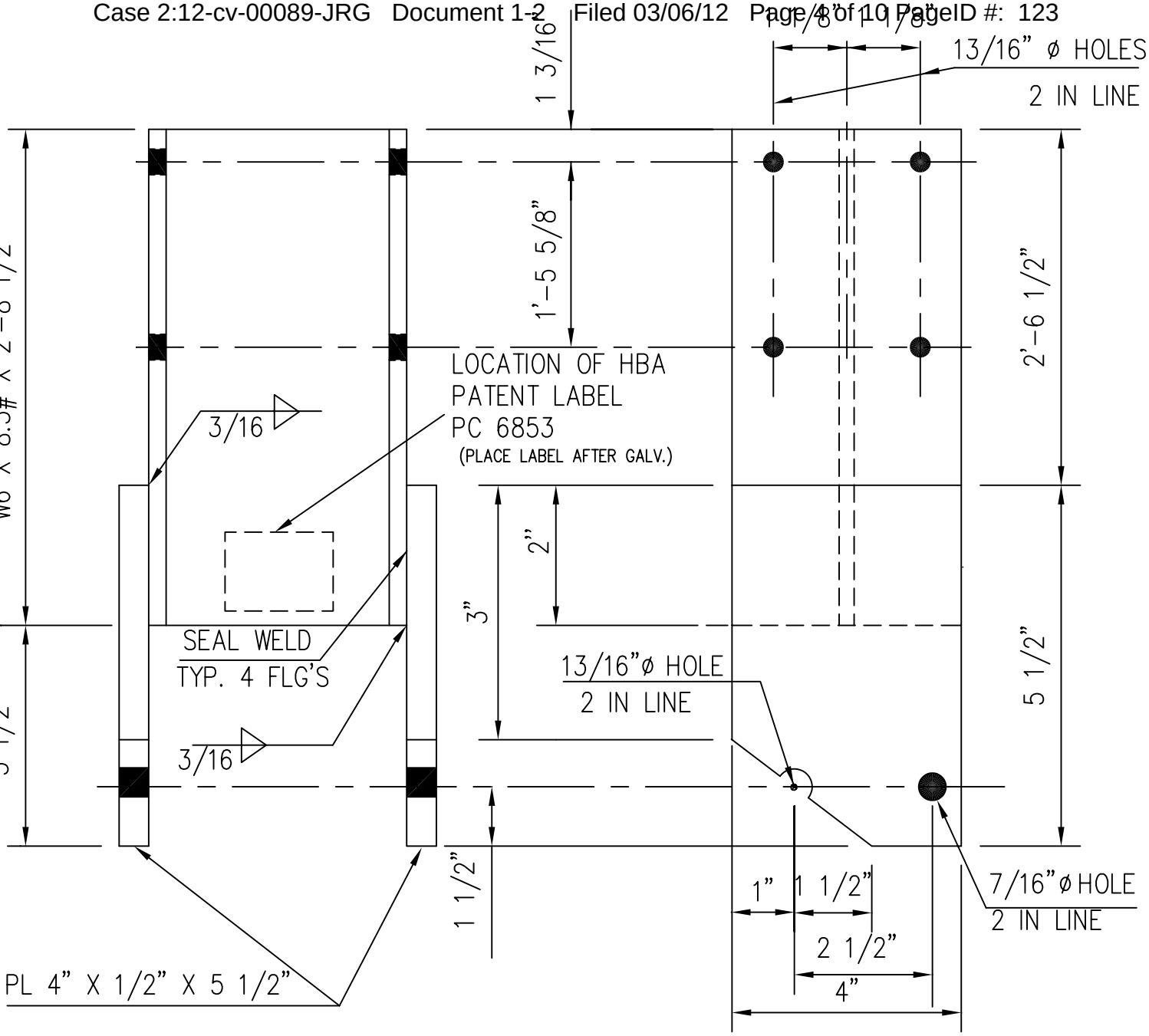


Figure 2. Details of the ET-PLUS for 787 mm (31-inch) high W-beam guardrail (upstream terminal).



ITEM CLASS:			
MATERIAL: A-36		FINISH A-123	

TRINITY INDUSTRIES, INC.
HIGHWAY SAFETY PRODUCTS
2525 STEMMONS FREEWAY. DALLAS, TX 75207

ET-PLUS [31" GUARDRAIL]

APPROX. SHPG. WT.; 31.8 #

BREAKAWAY POST TOP # 1 x 3'-0" [31" GUARDRAIL]

DRAWN: E.A.S.	CHKD: B.S.	SCALE: N.T.S.	DATE: 08/15/2005
DRAWING NO: 49398			REV. 0

MK	BY	DATE	REVISION

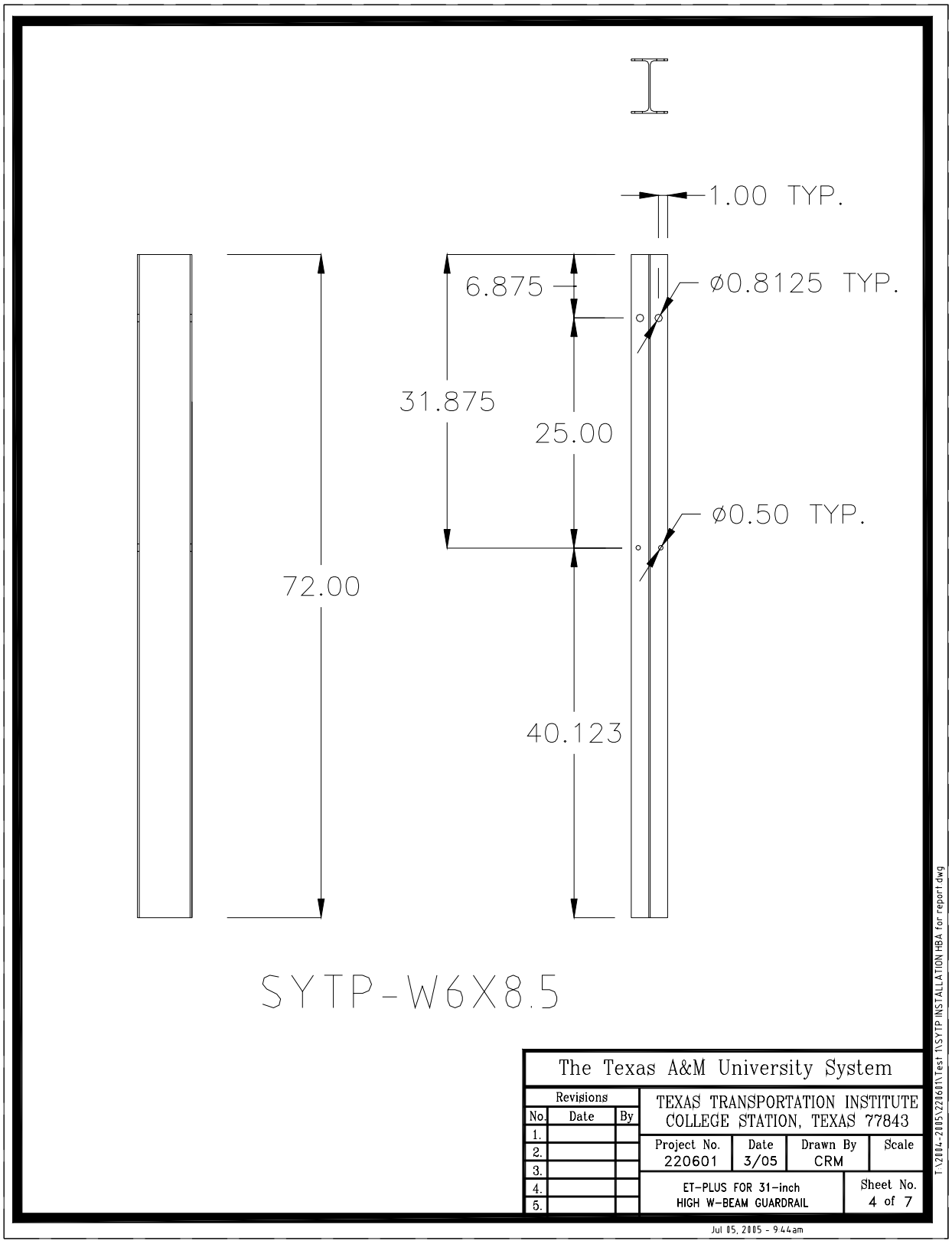
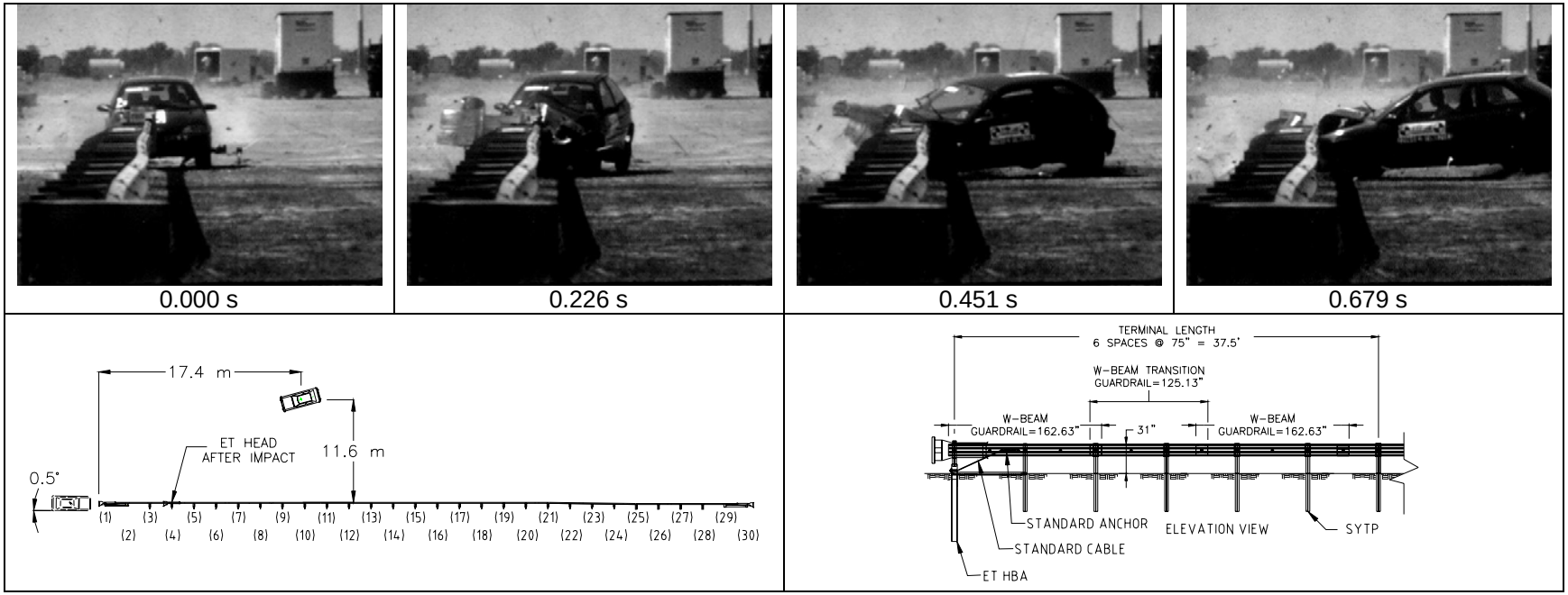


Figure 4. Details of the ET-PLUS for 787 mm (31-inch) high W-beam guardrail (SYTP post).



General Information	
Test Agency	Texas Transportation Institute
Test No.	220601-2
Date	05-27-2005
Test Article	
Type	Terminal
Name	ET-31
Installation Length (m)	70.5
Material or Key Elements	ET-PLUS Head on HBA Posts with SYTP Posts and 787 mm high W-beam
Soil Type and Condition	Standard Soil, Dry
Test Vehicle	
Type	Production
Designation	2000P
Model	1998 Geo Metro
Mass (kg)	
Curb	810
Test Inertial	820
Dummy	77
Gross Static	897

Impact Conditions	
Speed (km/h)	101.8
Angle (deg)	0.5
Exit Conditions	
Speed (km/h)	N/A
Angle (deg)	N/A
Occupant Risk Values	
Impact Velocity (m/s)	
Longitudinal	8.3
Lateral	0.3
THIV (km/h)	30.1
Ridedown Accelerations (g's)	
Longitudinal	-14.0
Lateral	4.3
PHD (g's)	14.3
ASI	0.92
Max. 0.050-s Average (g's)	
Longitudinal	-10.7
Lateral	3.3
Vertical	2.4

Test Article Deflections (m)	
Dynamic	5.44
Permanent	5.40
Working Width	0.36
Vehicle Damage	
Exterior	
VDS	12FD3
CDC	12FDEW3
Max. Exterior Vehicle Crush (mm)	420
Interior	
OCDI	FS0000000
Max. Occupant Compartment Deformation (mm)	0
Post-Impact Behavior	
(during 1.0 sec after impact)	
Max. Yaw Angle (deg)	140
Max. Pitch Angle (deg)	7
Max. Roll Angle (deg)	-15

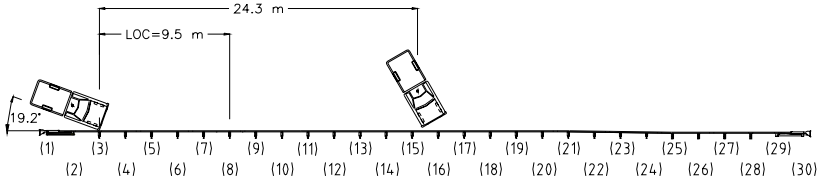
Figure 22. Summary of results for *NCHRP Report 350* test 3-30 on the ET-PLUS for 787 mm (31-inch) high W-beam guardrail.

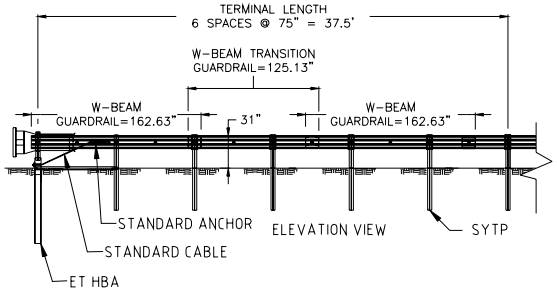

0.000 s


0.144 s


0.400 s


0.645 s





General Information

Test Agency	Texas Transportation Institute
Test No.	220601-1
Date	05-05-2005

Test Article

Type	Terminal
Name	ET-31
Installation Length (m)	70.5
Material or Key Elements	ET-PLUS Head on HBA Posts with SYTP Posts and 787 mm high W-beam
Soil Type and Condition	Standard Soil, Dry

Test Vehicle

Type	Production
Designation	2000P
Model	1992 Chevrolet 2500 Pickup Truck
Mass (kg)	
Curb	1912
Test Inertial	2031
Dummy	No dummy
Gross Static	2031

Impact Conditions

Speed (km/h)	100.5
Angle (deg)	19.2

Exit Conditions

Speed (km/h)	N/A
Angle (deg)	N/A

Occupant Risk Values

Impact Velocity (m/s)	
Longitudinal	8.7
Lateral	4.6
THIV (km/h)	31.1
Ridedown Accelerations (g's)	
Longitudinal	-11.5
Lateral	-6.5
PHD (g's)	11.9
ASI	0.83
Max. 0.050-s Average (g's)	
Longitudinal	-7.7
Lateral	-4.6
Vertical	-3.6

Test Article Deflections (m)

Dynamic	0.94
Permanent	0.26
Working Width	0.68

Vehicle Damage

Exterior	
VDS	01RFQ3
CDC	01RFEW3
Max. Exterior Vehicle Crush (mm)	530
Interior	
OCDI	FS0000000
Max. Occupant Compartment Deformation (mm)	0

Post-Impact Behavior

(during 1.0 sec after impact)	
Max. Yaw Angle (deg)	-16
Max. Pitch Angle (deg)	21
Max. Roll Angle (deg)	-16

Figure 15. Summary of results for *NCHRP Report 350* test 3-35 on the ET-PLUS for 787 mm (31-inch) high W-beam guardrail.

U.S. Department of Transportation
Federal Highway Administration

1200 New Jersey Avenue, SE.
Washington, DC 20590

August 30, 2007

In Reply Refer To: HSSD/CC-94A

Mr. Steve L. Brown
President
Trinity Highway Safety Products Division
P.O. Box 568887
Dallas, Texas 75356-8887

Dear Mr. Brown:

In the Federal Highway Administration's (FHWA) acceptance letter CC-94 dated September 2, 2005, we accepted a modified version of your ET-Plus guardrail terminal named the ET-Plus 31. On January 16, 2007, you requested that the FHWA extend our acceptance of the ET-Plus 31 to include 6 inch x 8 inch wood posts. On April 24, 2007, you followed up with additional information that we requested.

The modifications noted below were needed to match the ET-Plus terminal, which was originally tested with standard W-beam guardrail, to the Midwest Guardrail System (MGS). The MGS barrier was formally accepted as an National Cooperative Highway Research Program (NCHRP) Report 350 test level 3 (TL-3) barrier on March 1, 2005, (acceptance letter B-133). To verify the crashworthiness of the modified ET-Plus, the Texas Transportation Institute (TTI) conducted the following two tests, which are described in that agency's July 2005 report, "NCHRP Report 350 Testing of the ET-Plus for 30-inch High W-Beam Guardrail":

- Report 350 test 3-30 (TTI Test 220601-2)
- Report 350 test 3-35 (TTI Test 220601-1)

To match the MGS barrier design, the following modifications (shown in CC-94) were made to the original ET-Plus terminal:

1. The guardrail height was raised to 787 mm (31 inches) throughout the terminal length.
2. The depth of each offset block (beginning at post 3) was increased to 305 mm (12 inches).
3. The upper section of the Hinged Breakaway Anchor post was modified to accommodate the increased guardrail height.
4. A 3.8-m (12.5-ft) long W-beam rail, with anchor bracket holes, was used between posts 1 and 3. A special 2.86-m (9.375-ft) W-beam section begins at post 3 and results in a splice located midway between posts 4 and 5. Standard W-beam sections with holes punched on 0.95 m (3.125 ft) centers are then used from mid-span of posts 4 and 5 and beyond. The terminal proper ends at post 7 (the first standard line post) making its total length 11.43 m (37.5 ft).

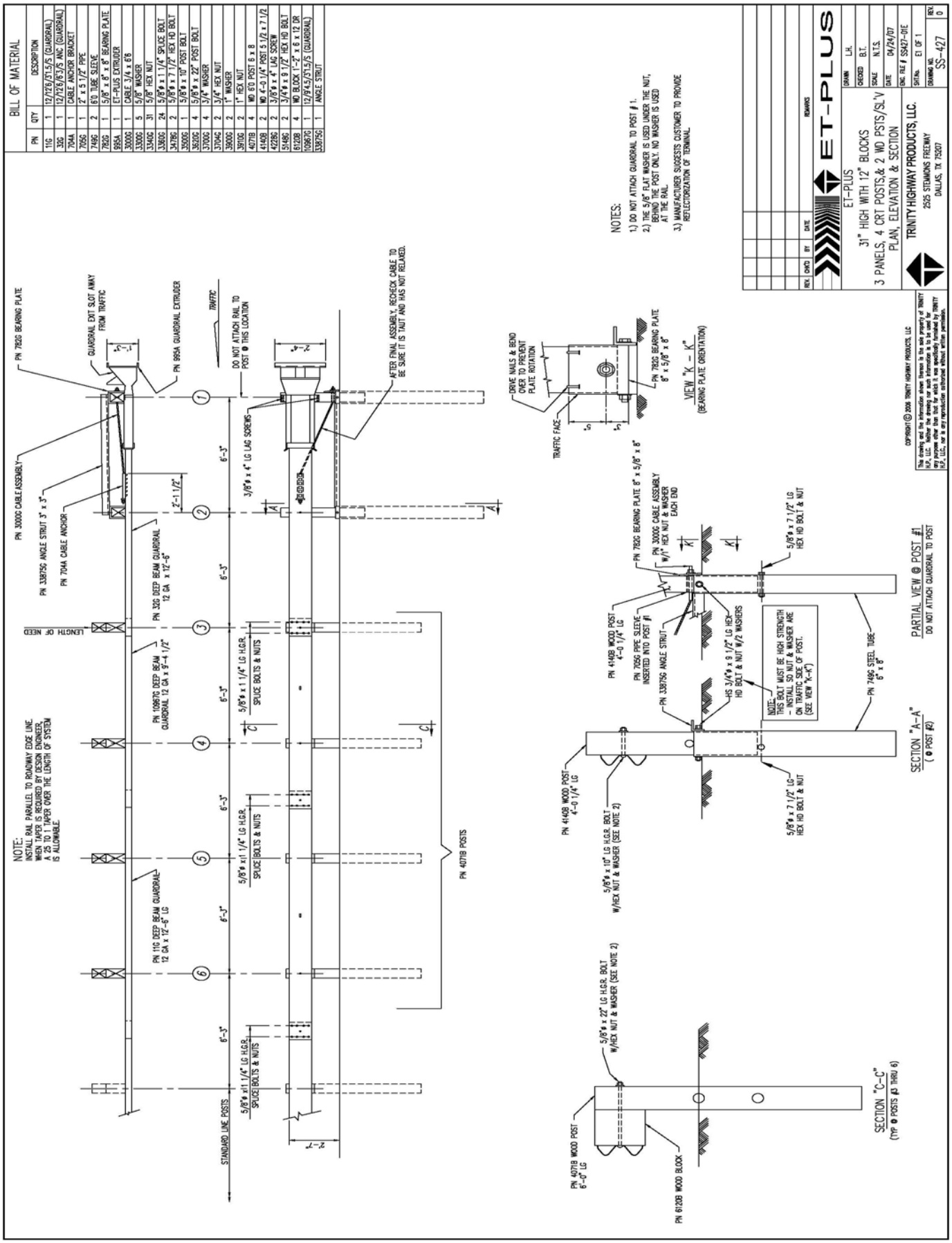
5. Ground-line weakening holes in the Steel Yielding Terminal Posts (SYTP) are located 810 mm (31.875 inches) from the top of each post. Since the overall post length is unchanged, each SYTP post is embedded approximately 1020 mm in the ground.
6. Modified SYTP posts are used for post positions 2 through 6.
7. Standard W6 x 8.5 line posts are used at post 7 and beyond. The NCHRP Report 350 requires up to seven crash tests to determine the adequacy of a traffic barrier terminal at TL-3. However, since the original designs for attachment to standard W-beam guardrail have proven to be crashworthy, only those tests that are likely to be affected by the design changes noted above are considered necessary. You successfully completed test 3-30 (head-on test with the 820-kg car) and test 3-35 (20-degree impact with the pickup truck at post 3).

Your present request is to allow either the SYTP or 6 inch x 8 inch wood posts in the ET-Plus 31 as shown in the enclosed drawing. Because the 6x8 wood posts have been shown to perform in a similar manner to steel posts (including the SYTP) the wood post ET-Plus 31 may be considered a TL-3 design that can be used on the National Highway System when connected to the MGS barrier. While the barrier itself is non-proprietary, your terminal is proprietary and remains subject to the conditions stated in Title 23, Code of Federal Regulations, Section 635.411 when used on Federal-aid highway projects. All other conditions in the FHWA acceptance letter CC-94 continue to apply.

Sincerely yours,

George E. Rice, Jr.
Acting Director, Office of Safety Design
Office of Safety

Enclosure


BILL OF MATERIAL
PN | QTY | DESCRIPTION
11G | 1 | 12/12'6/31.5/5 (GUARDRAIL)
32G | 1 | 12/12'6/3/S ANC (GUARDRAIL)
704A | 1 | CABLE ANCHOR BRACKET
705G | 1 | 2" x 5 1/2" PIPE
7496 | 2 | 6'0 TUBE SLEEVE
782G | 1 | 5/8" x 8" x 8" BEARING PLATE
995A | 1 | ET-PLUS EXTRUDER
30000G | 1 | CABLE 3/4 x 6'6
33000G | 5 | 5/8" WASHER
33400G | 31 | 5/8" HEX NUT
33800G | 24 | 5/8"ø x 11 1/4" SPLICE BOLT
34786 | 2 | 5/8"ø x 7 1/2" HEX HD BOLT
35000G | 1 | 5/8"ø x 10" POST BOLT
36206G | 4 | 5/8"ø x 22" POST BOLT
37000G | 4 | 3/4" WASHER
37004G | 2 | 3/4" HEX NUT
39000G | 2 | 1" WASHER
39100G | 2 | 1" HEX NUT
40718 | 4 | WD 6'0 POST 6 x 8
41408 | 2 | WD 4'-0 1/4" POST 5 1/2 x 7 1/2
42286 | 2 | 3/8"ø x 4" LAG SCREW
51486G | 2 | 3/4"ø x 9 1/2" HEX HD BOLT
61208 | 4 | WD BLOCK 1'-2" x 6 x 12 DR
10967G | 1 | 12/9'4.5/31.5/5 (GUARDRAIL)
33875G | 1 | ANGLE STRUT
NOTE:
INSTALL RAIL PARALLEL TO ROADWAY EDGE LINE. WHERE TAPER IS REQUIRED BY DESIGN ENGINEER, A 25 TO 1 TAPER OVER THE LENGTH OF SYSTEM IS ALLOWABLE.
PN 782G BEARING PLATE
GUARDRAIL EXIT SLOT AWAY FROM TRAFFIC
PN 995A GUARDRAIL EXTRUDER
TRAFFIC
DO NOT ATTACH RAIL TO POST @ THIS LOCATION
AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
PN 30000 CABLE ASSEMBLY
PN 33875G ANGLE STRUT 3" x 3"
PN 704A CABLE ANCHOR
3/8"ø x 4" LG LAG SCREWS
2'-1 1/2"
LENGTH OF NEED
PN 32G DEEP BEAM GUARDRAIL 12 GA x 12'-6"
PN 10967G DEEP BEAM GUARDRAIL 12 GA x 9'-4 1/2"
PN 11G DEEP BEAM GUARDRAIL 12 GA x 12'-6" LG
5/8"ø x 11 1/4" LG H.G.R. SPLICE BOLTS & NUTS
6'-3"
STANDARD LINE POSTS
PN 40718 POSTS
2'-7"
SECTION "C-C"
(TYP @ POSTS #3 THRU 6)
PN 40718 WOOD POST 6'-0" LG
PN 6120B WOOD BLOCK
5/8"ø x 22" LG H.G.R. BOLT W/HEX NUT & WASHER (SEE NOTE 2)
DRIVE NAILS & BEND OVER TO PREVENT PLATE ROTATION
TRAFFIC FACE
PN 782G BEARING PLATE 8" x 5/8" x 8"
VIEW "K - K"
(BEARING PLATE ORIENTATION)
PARTIAL VIEW @ POST #1
DO NOT ATTACH GUARDRAIL TO POST
PN 782G BEARING PLATE 8" x 5/8" x 8"
PN 30000 CABLE ASSEMBLY W/1" HEX NUT & WASHER EACH END
PN 41408 WOOD POST 4'-0 1/4" LG
PN 705G PIPE SLEEVE INSERTED INTO POST #1
PN 33875G ANGLE STRUT
HS 3/4"ø x 9 1/2" LG HEX HD BOLT & NUT W/2 WASHERS
NOTE: THIS BOLT MUST BE HIGH STRENGTH - INSTALL SO NUT & WASHER ARE ON TRAFFIC SIDE OF POST. (SEE VIEW "K-K")
5/8"ø x 7 1/2" LG HEX HD BOLT & NUT
PN 7496 STEEL TUBE 6" x 8"
PN 41408 WOOD POST 4'-0 1/4" LG
5/8"ø x 10" LG H.G.R. BOLT W/HEX NUT & WASHER (SEE NOTE 2)
5/8"ø x 7 1/2" LG HEX HD BOLT & NUT
SECTION "A-A"
(@ POST #2)
NOTES:
1.) DO NOT ATTACH GUARDRAIL TO POST # 1.
2.) THE 5/8" FLAT WASHER IS USED UNDER THE NUT, BEHIND THE POST ONLY. NO WASHER IS USED AT THE RAIL.
3.) MANUFACTURER SUGGESTS CUSTOMER TO PROVIDE RETROREFLECTORIZATION OF TERMINAL
REV | CHK'D | BY | DATE | REMARKS
ET-PLUS
ET-PLUS
31" HIGH WITH 12" BLOCKS
3 PANELS, 4 CRT POSTS,& 2 WD PSTS/SL'V
PLAN, ELEVATION & SECTION
DRAWN LH.
CHECKED B.T.
SCALE N.T.S.
DATE 04/24/07
DWG. FILE # SS427-01E
SHTS. NO. 1 OF 1
DRAWING NO. SS-427
REV. 0
TRINITY HIGHWAY PRODUCTS, LLC.
2525 STEMMONS FREEWAY
DALLAS, TX. 75207
COPYRIGHT © 2006 TRINITY HIGHWAY PRODUCTS, LLC
This drawing and the information shown hereon is the sole property of TRINITY H.P., LLC. and may not be reproduced in any form or used for any purpose other than that for which it was specifically furnished by TRINITY H.P., LLC., nor is any reproduction authorized without permission.

JS 44 (Rev. 09/11)

CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. *(SEE INSTRUCTIONS ON NEXT PAGE OF THIS FORM.)*

I. (a) PLAINTIFFS
UNITED STATES OF AMERICA ex. rel. JOSHUA HARMAN

(b) County of Residence of First Listed Plaintiff _____
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorneys *(Firm Name, Address, and Telephone Number)*
Josh B. Maness, Attorney at Law
P.O. Box 1785
Marshall, Texas 75671 903-407-8455

DEFENDANTS
TRINITY INDUSTRIES, INC.

County of Residence of First Listed Defendant _____
(IN U.S. PLAINTIFF CASES ONLY)
NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE TRACT OF LAND INVOLVED.

Attorneys *(If Known)*

II. BASIS OF JURISDICTION *(Place an "X" in One Box Only)*

- ☒ 1 U.S. Government Plaintiff
- ☐ 3 Federal Question *(U.S. Government Not a Party)*
- ☐ 2 U.S. Government Defendant
- ☐ 4 Diversity *(Indicate Citizenship of Parties in Item III)*

III. CITIZENSHIP OF PRINCIPAL PARTIES *(Place an "X" in One Box for Plaintiff) and One Box for Defendant)*
(For Diversity Cases Only)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated *or* Principal Place of Business In This State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated *and* Principal Place of Business In Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. NATURE OF SUIT *(Place an "X" in One Box Only)*

CONTRACT
- ☐ 110 Insurance
- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans)
- ☐ 153 Recovery of Overpayment of Veteran's Benefits
- ☐ 160 Stockholders' Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability
- ☐ 196 Franchise

REAL PROPERTY
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

TORTS

PERSONAL INJURY
- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury
- ☐ 362 Personal Injury - Med. Malpractice

PERSONAL INJURY
- ☐ 365 Personal Injury - Product Liability
- ☐ 367 Health Care/ Pharmaceutical Personal Injury Product Liability
- ☐ 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

CIVIL RIGHTS
- ☐ 440 Other Civil Rights
- ☐ 441 Voting
- ☐ 442 Employment
- ☐ 443 Housing/ Accommodations
- ☐ 445 Amer. w/Disabilities - Employment
- ☐ 446 Amer. w/Disabilities - Other
- ☐ 448 Education

PRISONER PETITIONS
- ☐ 510 Motions to Vacate Sentence

Habeas Corpus:
- ☐ 530 General
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Condition
- ☐ 560 Civil Detainee - Conditions of Confinement

FORFEITURE/PENALTY
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 690 Other

LABOR
- ☐ 710 Fair Labor Standards Act
- ☐ 720 Labor/Mgmt. Relations
- ☐ 740 Railway Labor Act
- ☐ 751 Family and Medical Leave Act
- ☐ 790 Other Labor Litigation
- ☐ 791 Empl. Ret. Inc. Security Act

IMMIGRATION
- ☐ 462 Naturalization Application
- ☐ 463 Habeas Corpus - Alien Detainee (Prisoner Petition)
- ☐ 465 Other Immigration Actions

BANKRUPTCY
- ☐ 422 Appeal 28 USC 158
- ☐ 423 Withdrawal 28 USC 157

PROPERTY RIGHTS
- ☐ 820 Copyrights
- ☐ 830 Patent
- ☐ 840 Trademark

SOCIAL SECURITY
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

FEDERAL TAX SUITS
- ☐ 870 Taxes (U.S. Plaintiff or Defendant)
- ☐ 871 IRS—Third Party 26 USC 7609

OTHER STATUTES
- ☒ 375 False Claims Act
- ☐ 400 State Reapportionment
- ☐ 410 Antitrust
- ☐ 430 Banks and Banking
- ☐ 450 Commerce
- ☐ 460 Deportation
- ☐ 470 Racketeer Influenced and Corrupt Organizations
- ☐ 480 Consumer Credit
- ☐ 490 Cable/Sat TV
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 890 Other Statutory Actions
- ☐ 891 Agricultural Acts
- ☐ 893 Environmental Matters
- ☐ 895 Freedom of Information Act
- ☐ 896 Arbitration
- ☐ 899 Administrative Procedure Act/Review or Appeal of Agency Decision
- ☐ 950 Constitutionality of State Statutes

V. ORIGIN *(Place an "X" in One Box Only)*
☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district *(specify)* ☐ 6 Multidistrict Litigation

VI. CAUSE OF ACTION
Cite the U.S. Civil Statute under which you are filing *(Do not cite jurisdictional statutes unless diversity)*:
31 U.S.C. 3729-32 (False Claims Act)
Brief description of cause:
Qui Tam Case

VII. REQUESTED IN COMPLAINT: ☐ CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23 **DEMAND $** CHECK YES only if demanded in complaint: **JURY DEMAND:** ☒ Yes ☐ No

VIII. RELATED CASE(S) IF ANY *(See instructions)*: JUDGE _____ DOCKET NUMBER _____

DATE
04/06/2012

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT # _____ AMOUNT _____ APPLYING IFP _____ JUDGE _____ MAG. JUDGE _____