

**Bureau of Project Delivery
Bridge Design and Technology Division**

<p>BRADD No. 040 November 17, 2014</p>	<p>Integral Abutment: Incorrect Prestress I-Beam Stirrup Detailing</p>
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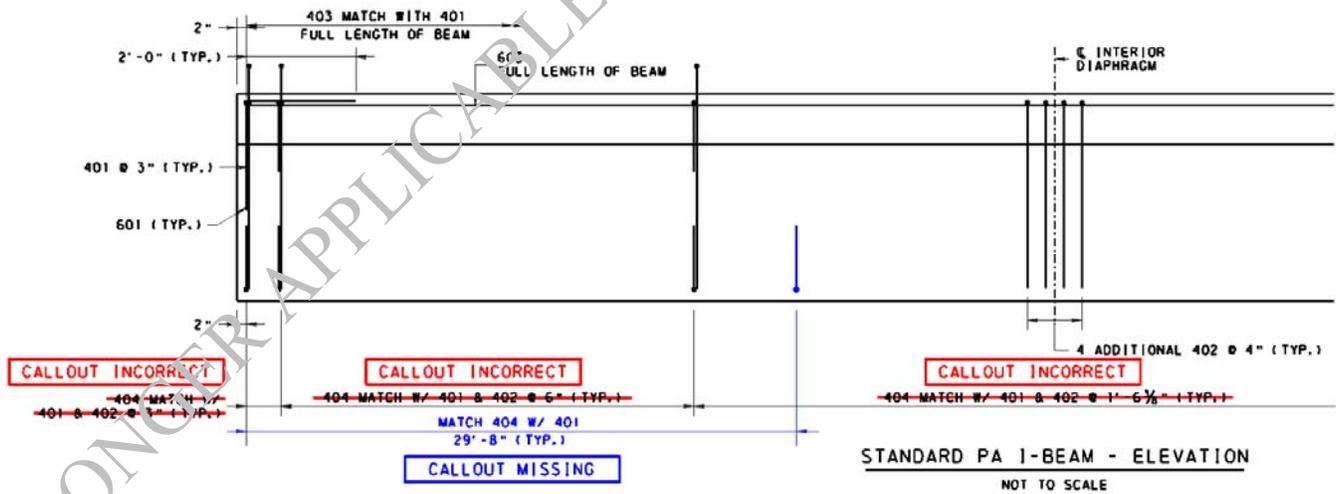
Since the release of BRADD v3.2.0.0, an issue with the vertical stirrup callouts on the Prestress I-Beam Elevation detail has been reported. This issue only occurs for bridges with integral abutments and has been present in BRADD since BRADD v3.1.6.0. This issue, its symptoms, and any workarounds are listed below.

1) Problem Statement:

The labeling for the shear stirrup reinforcing is incorrect for Prestress I-Beams without a beam notch in the BRADD BEAM ELEVATION detail. This only occurs for bridges with Integral Abutments.

The following two problems with stirrup reinforcement have been found:

1. The 404 bars do not end at 1/3 span length.
2. The 401 and 402 bars are called out incorrectly.



The problems listed above occur only with Prestressed I-Beams *without* a beam notch for bridges with Integral Abutments.

Archived copies of all previously distributed e-Notifications can be obtained from the PENNDOT BRADD website at <http://bradd.engrprograms.com/home> and clicking on "e-Notification" and then "Mailing List Archives."

Problem Workaround:

A correct BEAM ELEVATION detail for a prestressed beam without a beam notch may be constructed by generating in BRADD a detail of a similar beam elevation *with* a beam notch and then manually copying the relevant stirrup detail information from the similar beam elevation detail with the beam notch to the beam elevation detail of the beam without the beam notch.

The following steps may be used to generate a BEAM ELEVATION detail of a beam with a beam notch which can be used as the source of the corrected stirrup callouts:

1. In the current BRADD job, create a new set of abutments, 1 and 2, for the existing prestressed superstructure. Choose "Superstructure Only (High/Stub/Wall)" as the Abutment Type.
2. Select the two new superstructure only abutments that were just created in Step 1 and run all design and quantity calculations.
3. Generate a set of superstructure drawings for the new Superstructure Only BRADD job.
4. From the figures below, find the sheet with the beam type of interest (either PA I-Beam, AASHTO I-Beam or PA Bulb-Tee Beam). The top of each sheet shows an example of a BEAM ELEVATION detail containing the incorrect stirrup information (labeled ORIGINAL JOB). The bottom of each sheet shows an example of a BEAM ELEVATION detail created from the same job but with Superstructure Only option (labeled MODIFIED SUPER ONLY JOB). In each figure, items crossed out with red lines are incorrect. Items highlighted in yellow are correct.
5. Copy or replace the items indicated in the attached example that matches the type of I-beam of interest.

Problem Resolution:

This issue will be resolved in the next release of BRADD, Version v3.2.2.0, which is due to be released in the summer of 2015.

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BRADD

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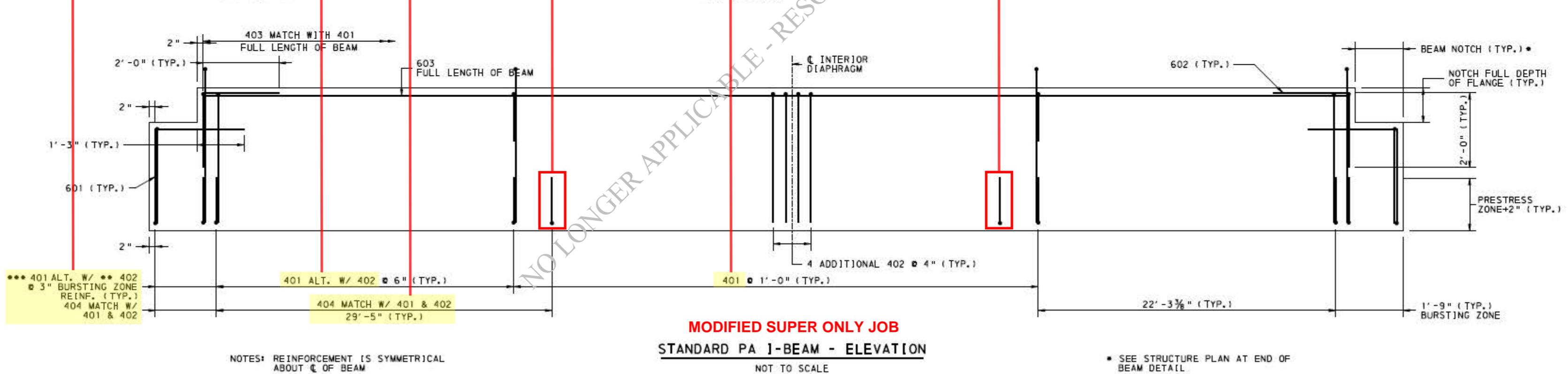
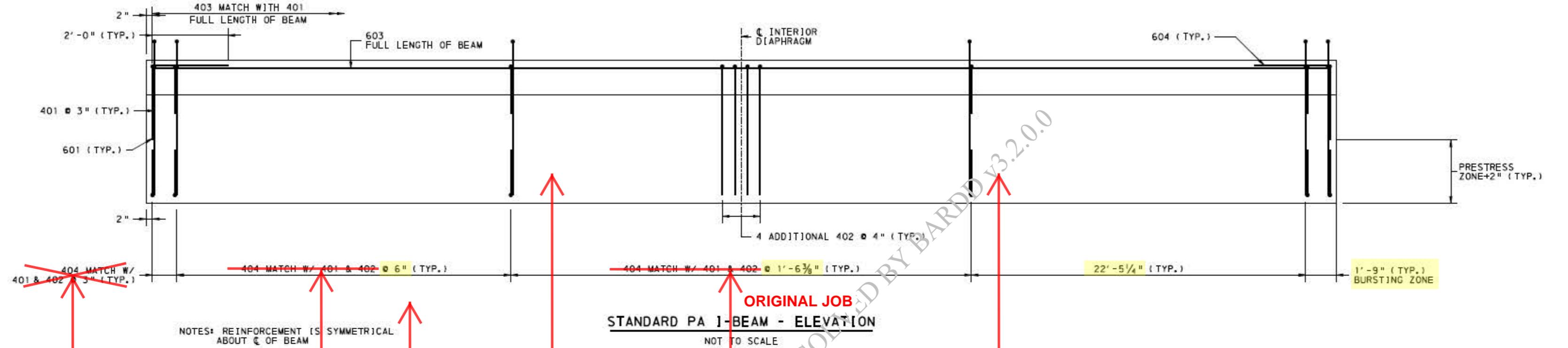
**Integral Abutment: Incorrect Prestress I-Beam
Stirrup Detailing**

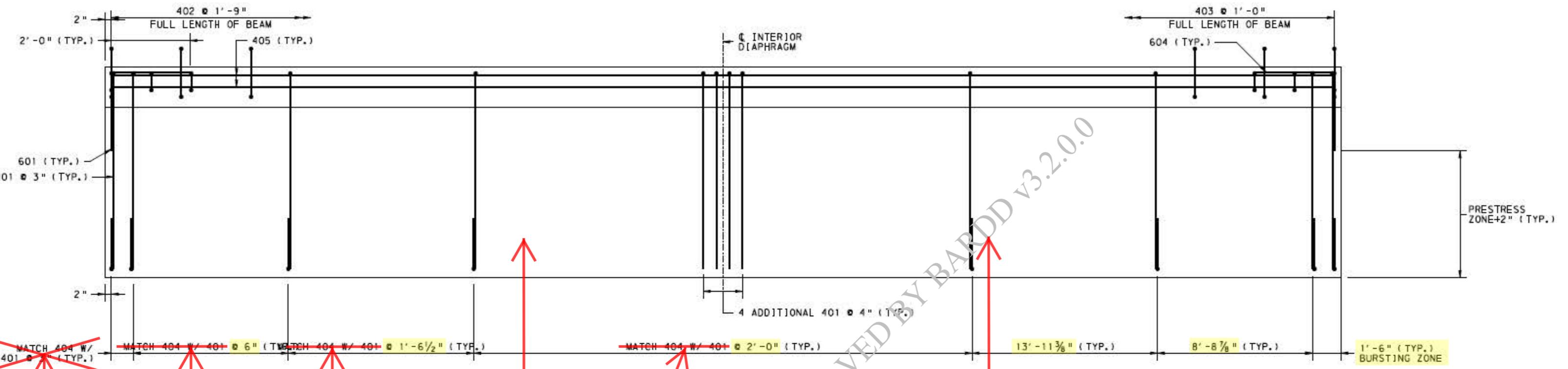
Please direct any questions to:

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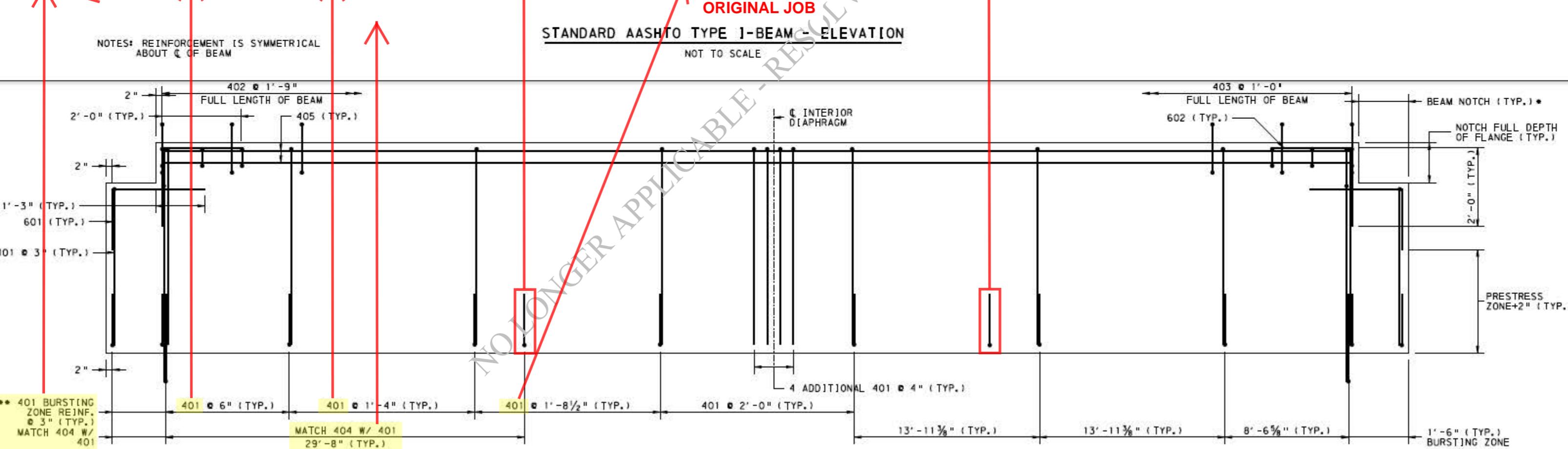
NO LONGER APPLICABLE - RESOLVED BY BARDD v3.2.0.0

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ORIGINAL JOB
STANDARD AASHTO TYPE I-BEAM - ELEVATION
 NOT TO SCALE



MODIFIED SUPER ONLY JOB
STANDARD AASHTO TYPE I-BEAM - ELEVATION
 NOT TO SCALE

** 401 BURSTING ZONE REINF. @ 3" (TYP.) MATCH 404 W/ 401

NOTES: REINFORCEMENT IS SYMMETRICAL ABOUT C OF BEAM

• SEE STRUCTURE PLAN AT END OF BEAM DETAIL

