

AASHTOWare Prestress Design Tool



AASHTOWare Design and Rating Bridge
User Group Meeting
Albany, NY – August 2015

Prestress Design Tool



- History
- Current Status
- Project Requirements
- Future Tools
- Release Plan
- Product Demonstration

Project History

It all started here



<i>Incident</i>	1233
<i>Folder</i>	/Support Center/Opis
<i>Subject</i>	Opis as a Design Tool
<i>Status</i>	Suspended
<i>Submitted By</i>	Teal, Dean
<i>Date Submitted</i>	6/22/1999 12:36:05 PM
<i>Estimated Cost</i>	extensive
<i>Description</i>	FROM: dteal DATE: 6/22/1999 7:41 AM

There needs to be some iteration process to find economical solutions.

solutions. Plus there needs to be a cost estimator (by weight/mass) to make comparisons.

Web Thickness or Flange

After a web height is decided, we should be able to give it the thickness and have Opis iterate on flanges. Or the other way around. We should be able to lock one in and iterate on the other. Intermediate Stiffeners should be located and sized based on the web thickness and height. Bearing stiffeners should be sized on the same bases. Trial and error wastes much time and usually will not result in economical designs.

Project History



- Ended up in top 10 enhancement voting for a number of years
- Incident 1233 was not specific
- Opis Business Meetings – Created new enhancements
 - Incident 7538 – Design tool for P/S beam capacity
 - Incident 7539 – Steel Design

Project History



- Decision was made to start with the P\S Design Tool
- Added to the 2014 Work Plan
- Task Force created a Design Tool Technical Advisory Group to help guide the project
- Anticipated release in June 2014
- TAG mockup reviews resulted in additional requirements

Project History



- Development was moved to the 2015 Work Plan with June 2015 release
- Further review by the TAG added significant additional requirements
- Wanted to ensure we deliver a product that would compete with other standalone prestress software

Current Status

- Task Force decided to break into two phases
 - Develop under its own work plan so it is not tied to a June release
 - Gets the tool in the users hands earlier, allows for improvements in Phase 2
- Able to use the Modernized Finite Element Engine

Future Tools – Steel Design



- Work is also starting on the steel design tool
- Currently developing requirements for review by the TAG

Project Requirements



- Standalone, modular, flexible set of single-purpose tools.
- Does not require the AASHTOWare Bridge database, but able to connect if available
- Passes design outcome to the Bridge database if available.

Project Requirements



- Use the LRFD Spec Checker and the Finite Element Engine
- Minimal required input, but still allow the designer to be a designer
- Use of templates and existing libraries
- Design Flexibility

Release Schedule



- Phase 1 Beta Testing – December 2015
- Phase 1 Release – February 2016
- Phase 2 Beta Testing – June 2016
- Phase 2 Release – September 2016

Thank you