



Preliminary Bridge Layout Review (PBLR) & Post PBLR Reviews

Austin District
Bridge & Hydraulics Section

August 2024

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About PBLR

- The Austin District's Bridge and Hydraulics Section will review and have comments addressed on all Bridge Layouts before formal submission to the Bridge Division (BRG) is made.
- The formal submission of the Bridge Layout to the Bridge Division (BRG) for the official review, comment, and approval of the Bridge Layout is the PBLR. Submitting the Bridge Layout to BRG is the responsibility of the TxDOT Project Manager (PM) responsible for preparing the Bridge Layout which includes laying out new, replacement, and widened bridges (including phasing or staging) for both vehicular and pedestrian traffic.

A PBLR is required for all bridge work, regardless of funding type and before major structural design begins, typically at 30% to 60% Plans (preferably at or before 30%), Specifications & Estimates (PS&E) completion. For **steel girder bridges** and **spliced-girder bridges**, additional reviews are also required at 30%, 60%, 90%, and 100% PS&E level (identified here as post PBLR). For **retaining / MSE walls** taller than 25 ft, PBLR is required at 30% PS&E level.

The review typically takes two weeks from the submittal date to BRG. If there are a considerable number of bridge layouts to review, then the time needed to review would increase. Refer to 'PBLR Timetable' table for suggested review time frames to help with planning and submitting Bridge Layouts in accordance with [PBLR and PS&E Review Standard Operating Procedures](#), Chapter 2, Section 2.3, Bridge Division, August 2023. Please note, complexity of bridges might require more time for review. Austin B&H will review and comment on all Bridge Layouts specifically, and the PBLR submittal package more generally. All B&H comments are expected to be addressed before the TxDOT PM formally submits the PBLR to BRG. This is a requirement according to the [Bridge Project Development \(BPD\) Manual](#).

PBLR submittals should be addressed and COPIED to [Biniam Aregawi](#) (Bridge and Hydraulics Section Manager), [Dr. Lianxiang Du](#) (District Bridge Engineer); [Denisson Cruz](#) (Austin B&H); and [Marie Fisk](#) (Bridge Division). Marie Fisk is Bridge Division's assigned PM for the Austin District. Submit all structures to be let under a single project as ONE submittal to ensure uniformity of design and eliminate duplication of standards.

For any bridge project starting on or after June 1, 2022, a 3D Bridge Model in OpenBridge Modeler (OBM) is required, excluding BMIP, rail retrofits, and truss rehabilitations (especial cases may apply). A bridge model is required regardless of who creates the Bridge Layout. (Link to the [Memo](#)). The Design Division has developed a Model Completeness Checklist to help ensure the completeness of models. Section 4 of the checklist is applicable to the 3D bridge model. The Model Completion Checklist can be found [here](#).

District PBLR and Post PBLR Submittal Process

1. The District Bridge Engineer must approve preliminary layouts prior to submission to Bridge Division.
2. Once approved by Austin B&H, the layout is submitted to the Bridge Division's PS&E Review mailbox for approval- submittal is by **TxDOT PM**.
 - a. Email the submittal of the link to the PBLR folder in ProjectWise to BRG_PD_PSE@txdot.gov
 - b. Email Subject: PBLR ## % CCCC-SS-JJJ (DIST) County RDWY
 - i. (Example: PBLR 30% 1111-11-1111 (AUS) Travis IH35)
 - ii. For steel / spliced bridges, the subject line of the email should contain bridge type.
 1. **Steel/Spliced-Girder** PBLR ##% CCCC-SS-JJJ (DIST) County RDWY
 - iii. For retaining / MSE walls, the subject line of the email should contain wall type.
 1. **Retaining / MSE walls** PBLR ##% CCCC-SS-JJJ (DIST) County RDWY
 - c. Email CC: [Biniam Aregawi](#), [Dr. Lianxiang Du](#), [Denisson Cruz](#), [Marie Fisk](#)
3. After Bridge Division reviews the PBLR, they will send a Bluebeam link with the comments. Once all comments have been addressed, the TxDOT PM will respond to the Bluebeam email in the affirmative.
4. After Bridge Division closes out the comments, they will send a final email indicating PBLR approval/denial.
5. The layout is approved when Division review comments are resolved.

The table below shows summary of review needs and reviewer for different bridge types.

Bridge Type	PBLR	PLANS	PLANS	PLANS
	30%	60%	90%	100%
Concrete	AUS/BRG	AUS	AUS	AUS
Steel	AUS/BRG	AUS/BRG	AUS/BRG	AUS/BRG
Complex	AUS/BRG	AUS/BRG	AUS/BRG	AUS/BRG
Pedestrian	AUS/BRG	AUS	AUS	AUS

Note: The Austin District does not recommend attaching utility lines to bridges, as outlined in Chapter 4, Section 4 of the Project Development Manual. Any such requests should be submitted separately to the District Bridge and Hydraulics Section for consideration prior to PBLR submission.

Bridge Division (BRG) Submission Requirements

1. The following requirements are in accordance with the [Bridge Project Development Manual](#), Chapter 5, Section 1 and [PBLR and PS&E Review Standard Operating Procedures](#), Bridge Division, August 2023.
2. Create a "PBLR" folder in PW: (add a generic path for the PW folder e.g., ...**14 - AUS\Design Projects\CCCCSSJJJ\4 - Design\Plan Review\2. PBLR**). Place the following in the "PBLR" folder in SEPARATE files (four files) for each structure in CSJ:
 - a. Bridge layout and transverse sections (pdf format). For phased projects, provide phasing typical sections.
 - b. Copy of the Bridge 3D Model and associated reference files at time of submittal.
 - i. [Guide for Reference Scan in ProjectWise for PBLR files](#) ([Presentation](#))
 - ii. [3D Model Checklist](#)
 - c. Plan and profile sheets of the roadway immediately before and after the bridge
 - d. H&H Drainage Analysis Report and any H&H plan sheets available. Scour computations shall be included in this review.
 - e. [Form 1002](#) for bridge work types: New, Replacement, and Widening or Rehabilitation (please print the fillable/form pdf to plain pdf)
3. The following information is to be in the body of the email:
 - a. District: _____
 - b. County: _____
 - c. CSJ: _____
 - d. Facility carried and feature crossed: _____ at _____ (roadway/creek/river/railroad name)
 - e. Ready-to-let date and proposed letting date: RTL _____ and Letting _____
 - f. Project type: __ (new construction, rehabilitation, replacement, widening, etc.)
 - g. Bridge designer: _____ (district, division, consultant)
 - h. Point-of-contact information: _____ (TxDOT project manager for in-house or consultant project)
 - i. Request for review (BRG SOP states the review time needed is based on the number of bridge layouts included)
 - j. OpenBridge (OBM/OBD) version: _____, OpenRoads (ORD) version: _____
 - k. Any relevant information that the division may need to complete its review.
4. The following information is to be in the PW link:
 - a. Preliminary bridge layout
 - b. Typical sections sheet
 - c. Construction sequence sheet (phasing)
 - d. Drainage Area Map and Hydraulic Sheet
 - e. Hydraulic plan sheets that include hydrology and hydraulics for simpler hydraulic models
 - f. H&H Drainage Analysis Report and HEC RAS models for more complex hydraulic

- g. models
- h. The H&H Drainage Analysis Report, Drainage Area Map, Hydraulic Data Sheet, and
- i. Bridge Scour Data Sheet for all span bridges over a stream crossing.
- j. Plan and profile sheets showing the project limits and the completed original of [Form 1002](#) (p. 3 of 3) for all projects funded by Category 6.
- k. A map view of the project illustrating the relationship of the roadways if the project is an interchange, or an interchange exists within the vicinity.
- l. The Railroad Exhibit A plan sheets, if applicable; Exhibit A must also be submitted to the Rail Division's Rail Safety Section.
- m. Bridge 3D Model(s) and associated reference files. Include the following file types.
 - i. [OBDX file](#), Bridge Model (3D Bridge DGN) and [Input Echo Report file](#).
 1. **Note:** For OBM/OBD model naming conventions, refer to the 'OBM and MicroStation CONNECT Edition Drafting Workflow' guide. Contact the Bridge Division at bridge3ddesign@txdot.gov for additional details. For example, for Bridge Model (bm) (3D Bridge File) filenames follow the format **XXXXyy##.dgn**, with **XXXX** being the 4-digit BRG Project ID Number, **yy** the 2-letter Naming Conv., and **##** a sequential number (e.g., 01, 02, 03, etc.) (e.g. **1111bm01.dgn**)

Have any questions? Contact Us

For any questions on this, please contact:

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References and Resources

1. [Bridge Project Development \(BPD\) Manual](#), Bridge Division, August 2023
2. [PBLR and PS&E Review Standard Operating Procedures](#), Bridge Division, August 2023
3. [TxDOT Bridge Detailing Guide](#), Chapter 8, April 2022. ([Bridge Layout Checklist](#))
4. [TxDOT Bridge Design Manual](#), January 2023
5. 3D Modeling: [Guide for Reference Scan in ProjectWise for PBLR files](#), Bridge Division, April 2023.
6. 3D Modeling: [3D Model Completeness Checklist](#), Design Division, October 2022
7. 3D Modeling: [Submitting Bridge Model \(3D Bridge DGN\) for PBLR](#), Bridge Division, April 2023
5. 3D Modeling: [OpenBridge Designer Help](#), Bentley®, November 2023 ([OBDX file](#))
8. 3D Modeling: [OpenBridge Modeler Help](#), Bentley®, March 2024. ([Input Echo Report file](#))
9. 3D Modeling: [TxDOT Design Division / OpenRoads Designer / Design Tools and Training](#)
10. 3D Modeling: [TxDOT Bridge Division / OpenBridge / Webinars](#), Crossroads website
11. 3D Modeling: OBM and MicroStation CONNECT Edition Drafting Workflow, Contact [BRG Division](#)
12. [TxDOT Bridge Design Section](#), Crossroads website
13. [TxDOT Bridge Guidance and Directives](#), Crossroads website
14. [TxDOT Bridge Projects / Approved Systems](#), TxDOT website
15. [TxDOT Bridge Publications \(Design, Geotechnical, Construction, and more\)](#), TxDOT website
16. [TxDOT Steel Preferred Practices for Steel Design](#), November 2021
17. [Preliminary Bridge Layout Review \(PBLR\)](#), Bridge Workshop 2024, Bridge Division, May 2024
18. [National Steel Bridge Alliance Documents](#), American Institute of Steel Construction website