

IPAC-16 | Requirements for as-built drawings

Audience: PBS Certifiers

Initial effective date: 1 March 2024

Effective date: 23 February 2026

This IPAC provides guidance to PBS Certifiers on the requirements for as-built drawings. It outlines the essential elements that must be included on the drawing while avoiding unnecessary information.

As-built drawing requirements

To ensure compliance, promote consistency in certification submissions, and facilitate the efficient processing of PBS Vehicle Approvals (VAs), PBS Certifiers are required to adhere to the following as-built drawing protocol.

Drawing number

Each as-built drawing must contain a drawing title block.

As a *minimum*, the following must be included in the drawing title block:

- a unique drawing number
- revision number
- drawing title
- date
- author.

A drawing frame should be included along with a drawing title block.

Dimension position and font size

Please ensure that dimensions are clear and readable. Use a sufficiently large font size and ensure clear positioning of dimensions.

Captions of as-built drawings are inserted into the VA document, which may affect the quality of the drawing. To ensure ease of use and interpretation by all parties in the process—operators, drivers, road managers, and Safety Compliance Officers (SCOs) please ensure that the drawings are clear and readable.

If the drawing or dimensions are not clearly readable, we may ask you to modify the drawing, increase the font size and/or modify the dimension position.

Lift axle and steer axle

If steer and/or lift axles are fitted to the vehicle, these must be clearly shown on the as-built drawing. For ease of interpretation, it is preferred that the word 'lift' or 'steer' is shown directly beneath the axle.

Exclusion of VINs

As-built drawings must not include Vehicle Identification Numbers (VINs).

The inclusion of VINs on the as-built drawing would require an update to the drawings every time vehicles are added or removed from a VA. It also creates a significant administrative burden for both the NHVR and Certifiers having to cross-check the VINs on the drawings against the Certifier's Certificate. For these reasons, VINs must not be included on the as-built drawing.

Exclusion of Payload Heights

As-built drawings must not include Payload Heights (PH). In this section reference to PHs also includes Tanker Fill Levels.

Maximum allowable PHs are specified in the corresponding PBS Design Approval (DA) and the Operating Conditions of the VA. If PHs in the DA are updated, or if a vehicle combination is recertified against a different dimension set within the DA or a new DA, the corresponding as-built drawings would need to be updated to reflect the new PH limit. For these reasons, PHs must not be included on the as-built drawing.

Exclusion of axle spacings

As-built drawings must not include individual axle spacings used for bridge assessment.

As part of VA processing, the NHVR generates an axle spacings table that is used by the road manager for access or bridge assessment purposes. The NHVR axle spacings table is the primary source of data and should not be duplicated.

Axle spread for each unit must be included as per the example below:



Vehicle dimensions as per Design Approval

As-built drawings must mirror the dimensions shown on the relevant Design Approval (DA) drawing. The dimensions shown on the DA have been identified as critical to vehicle performance and, therefore, must be checked and verified at the certification stage.

Additionally, avoid adding dimensions that are not relevant to PBS certification and VA

Hauling unit Front Overhang (FOH) range presentation

Certifiers have the option to group dimensionally identical hauling units together with an FOH range rather than the static value of each individual unit. When presenting these grouped hauling units on the as-built drawing, the following rules apply:

1. Only hauling units can be presented with a FOH range.
2. Only the FOH and the resulting overall length (OAL) dimensions will be able to be presented as a range.
3. Units can be grouped together only if the OAL of the combination stays within the length brackets for PBS Levels. See below PBS Level Length Brackets table.
4. The provided as-built drawings would need to show the minimum to maximum FOH range and the minimum to maximum OAL range. The minimum and maximum values must reflect the actual as-built units.
5. The Design Approval (DA) dimensional limits will still need to be complied with or approved in accordance with the Assessor Sign Off (ASO) work procedure.
6. Units that are being certified against DAs with PBS Safety Standards Exemptions affected by the hauling unit FOH cannot be mixed with units not requiring an exemption.

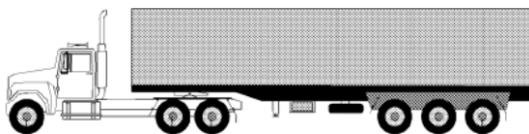
PBS Level length brackets

PBS Road Classification	Vehicle length brackets, L (m)	
	“A”	“B”
Level 1	L ≤ 20.0	-
Level 2	L ≤ 26.0	L > 26.0
Level 3	L ≤ 36.5	L > 36.5
Level 4	L ≤ 53.5	L > 53.5

Hauling units may need to be split out if trailers are added that push the new combinations into the next length bracket.

Drawing orientation

The front of the vehicle must be oriented towards the left of the page as such:



Floor heights

If the floor height dimension is shown in an unladen condition and the DA permits additional floor height for tyre deflection when unladen, the drawing must include a note ‘vehicle unladen’.

Fifth-Wheel Offset direction

The following Fifth-Wheel Offset (FWO) direction convention must be used on all drawings.

- The FWO forward of the centre of an axle group can be referred to as a plain number; i.e., a dimension of ‘200’ means the FWO is 200mm forward of the centre of an axle group.
- FWO rear of the centre of an axle group must be clearly labelled as ‘lag’.
- Neutral FWO dimension must be notated by 0.
- For example, an FWO range that spans from forward to rear should be labelled as ‘200 – lag 100’ or ‘lead 200 – lag 100’.

Unnecessary labelling must not be included

As-built drawings must not include labels other than those required by [IPAC-8 - Vehicle labelling requirements](#).

Exclusion of irrelevant information

Please do not include information not relevant for certification and vehicle approval purposes, such as any disclaimers of it being a ‘Sales Drawing and/or Final Design may vary from the layout shown’.

Grandfathering

Previously accepted drawings not conforming to this protocol will continue to be accepted - Certifiers are not required to amend existing drawings.

When modifying previously accepted drawings, i.e. adding prime movers or trailers to existing drawings, these drawings are considered new and, therefore, must conform to this IPAC.

Contact

This IPAC was produced by the PBS Operations Team; for queries, please email pbs@nhvr.gov.au.

IPAC-16: Revision history	
First Published	July 2023
Version 2	October 2023
Version 3	November 2023
Version 4	November 2023
Version 5	February 2024
Version 6	May 2024
Version 7	June 2024
Version 8	October 2025
Version 9	February 2026

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