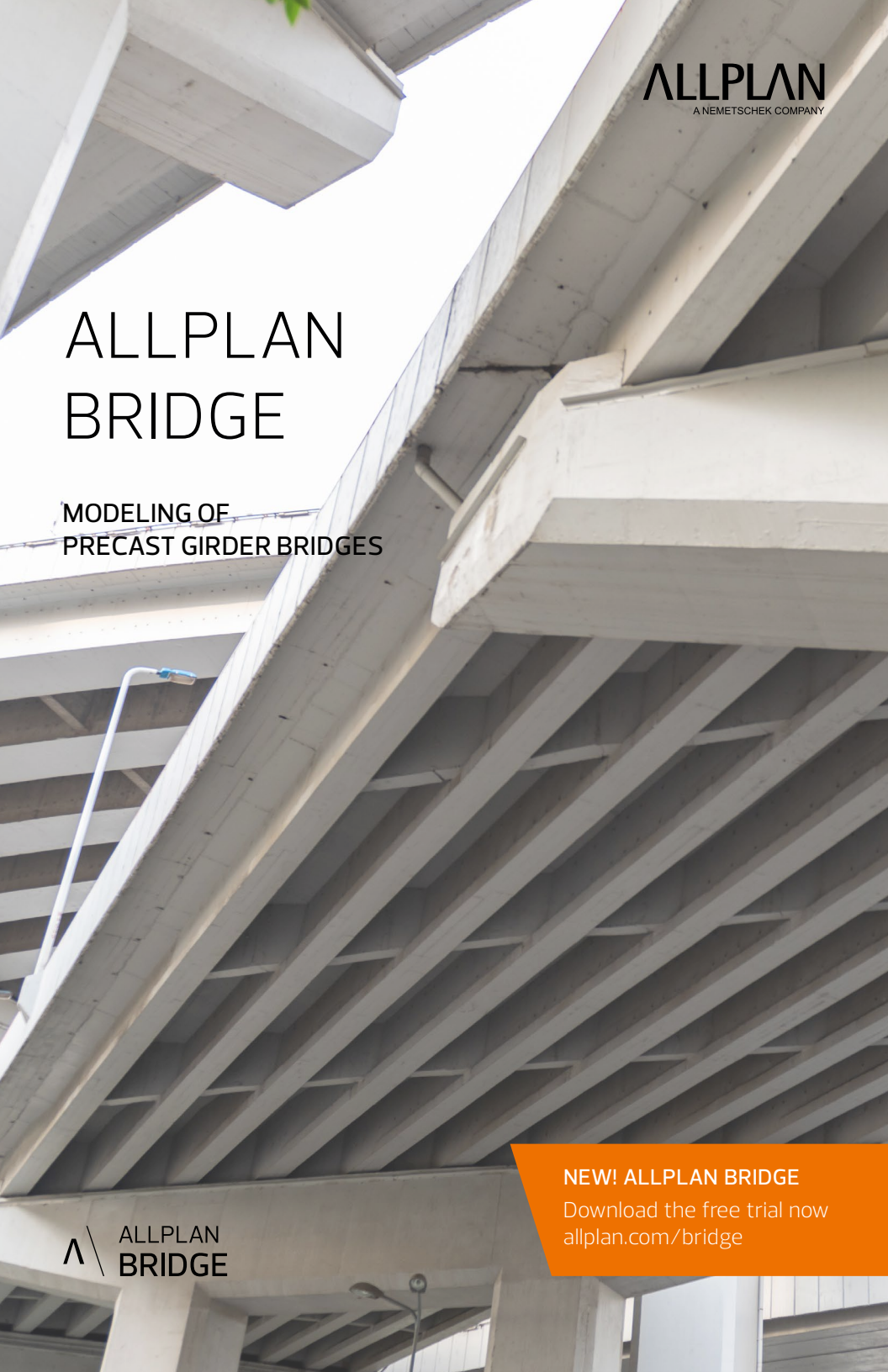

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ALLPLAN BRIDGE

MODELING OF PRECAST GIRDER BRIDGES

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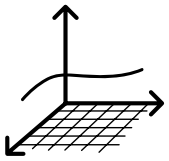
A DEDICATED WORKFLOW FOR PRECAST GIRDER BRIDGES

The geometry of precast girders is governed by the geometry of the substructure and their position along the axis. Thus, a further modeling approach is available in Allplan Bridge that enables users to create an exact geometry of precast girder bridges easily and quickly.

The modeling process is optimized even further by using parametric 3D templates. In this way repetitive bridge elements, such as straight precast girders, have to be defined only once and then placed parametrically as many times as necessary.

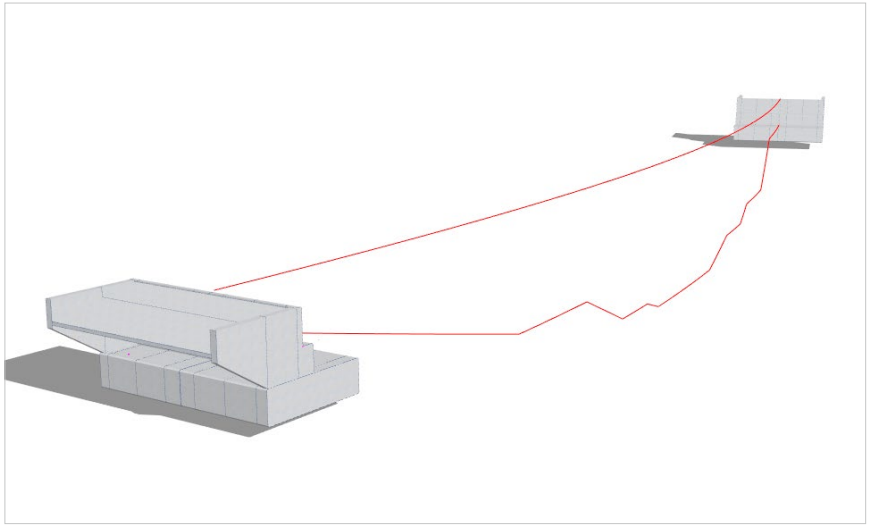
Free webinars and a trial version can be downloaded at **allplan.com/bridge**

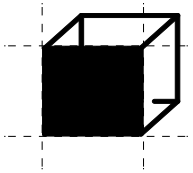
EFFICIENT WORKFLOW WITH ALLPLAN BRIDGE



1. CREATING AXES

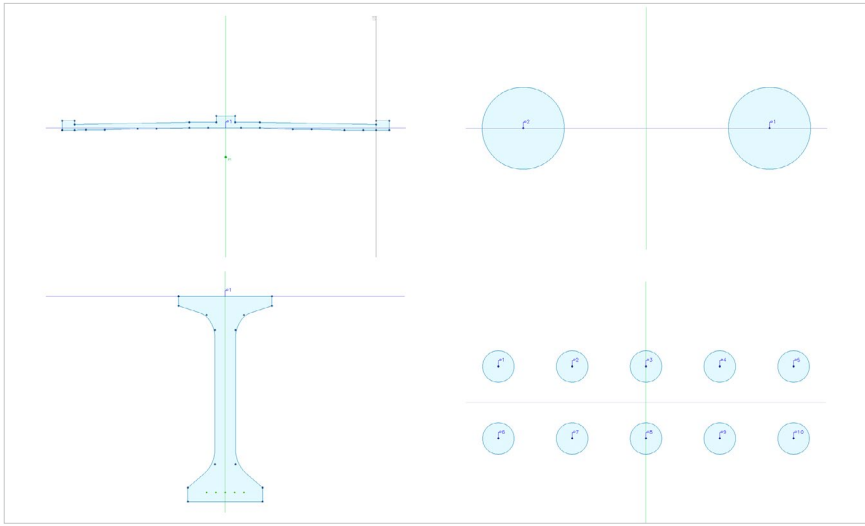
Every bridge construction project starts with one or more axes – with Allplan Bridge, you can adopt the data from an existing design (using LandXML data format) or define it manually. In both cases, the alignment is parametrically saved.



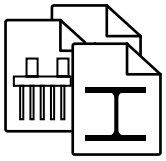


2. DEFINING CROSS-SECTIONS

You can define any cross-section and determine the geometry with its dependencies and variables. These parametric cross-sections can be adapted at any time and can be saved as a template and reused.

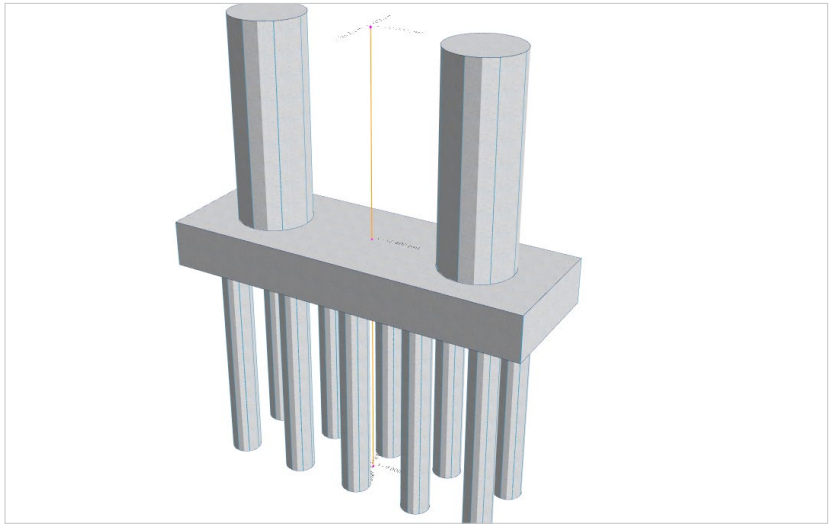


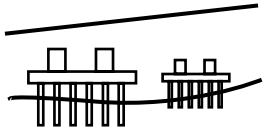
EFFICIENT WORKFLOW WITH ALLPLAN BRIDGE



3. DESIGNING A TEMPLATE

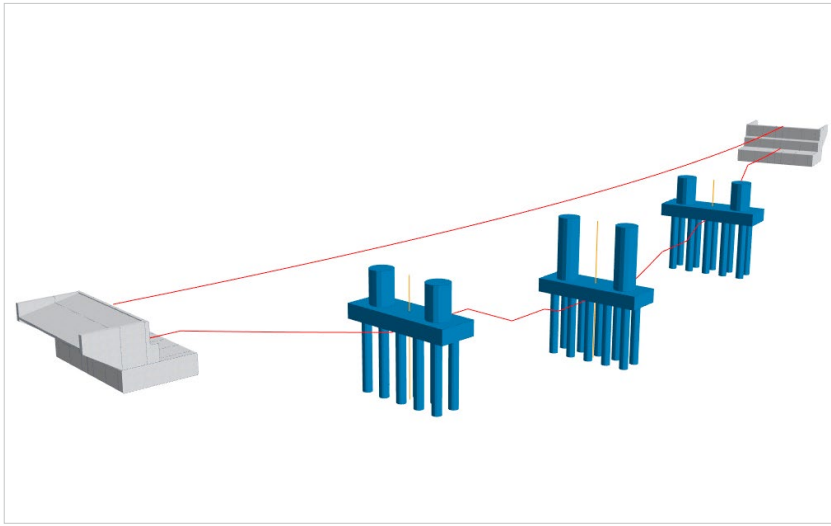
Any geometry of a pier, foundation and precast girder can be defined as a template. In the previous step defined cross-section(s) including constant and variable parameters are used for the design of the template. If the geometry is variable, tables or formulas can be assigned as usually. Furthermore, you can set which parts of the template should be fixed and which should adjust when using it in the 3D Model.



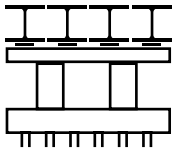


4. BUILDING A SUBSTRUCTURE

The substructure, with or without foundations, can be defined relative to one axis or relative to two axes – for example terrain axis at the bottom and road axis at the top. It can be defined directly or by usage of templates.

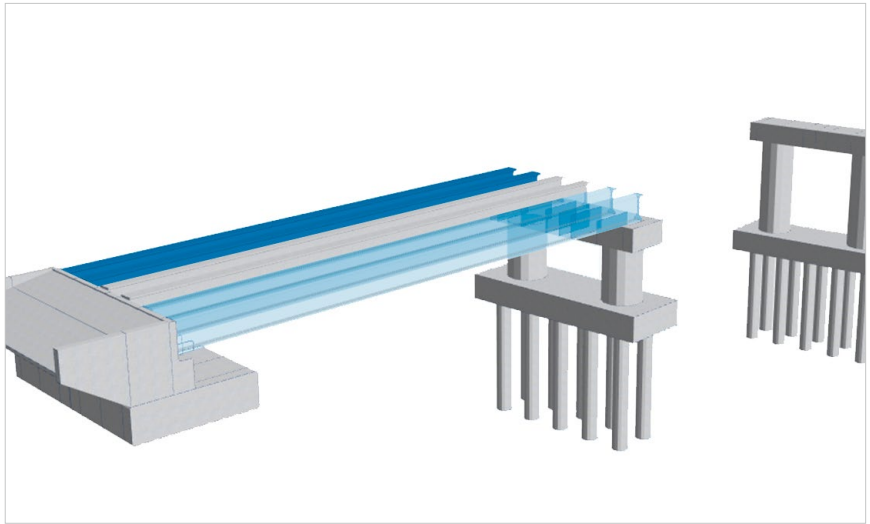


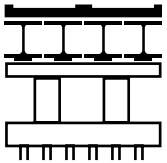
EFFICIENT WORKFLOW WITH ALLPLAN BRIDGE



5. ASSEMBLING GIRDERS

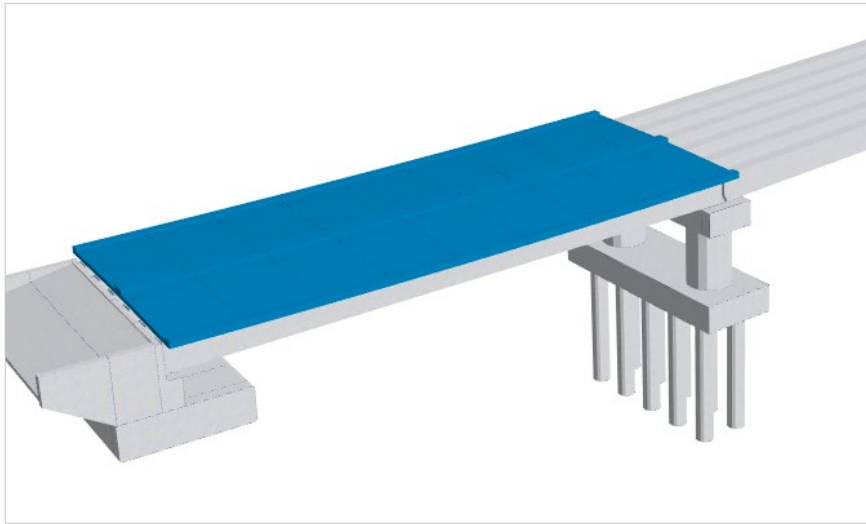
Precast girders are, just like on the construction side, positioned on the substructure created in the previous step. Actually, they are positioned between 2 reference points (bearings). The exact position of reference points is set by the substructure geometry.





6. CONSTRUCTING A PLATE

For generating the plate geometry, the original workflow of Allplan Bridge is used – extruding the geometry along the axis. Also, here any variations can be used and the cross-section, and with this also the 3D model, can be equipped with all the details, either by using boundaries or by placing python parts.



ABOUT THE COMPANY

ALLPLAN is a global provider of Building Information Modeling (BIM) solutions for the AEC industry. For more than 50 years ALLPLAN has pioneered the digitalization of the construction industry. Always focused on our clients we provide innovative tools to design and construct projects – inspiring users to realize their visions.

Headquartered in Munich, Germany, ALLPLAN is part of the Nemetschek Group. Around the world over 400 dedicated employees continue to write the ALLPLAN success story.

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ALLPLAN Inc.
10 N. High Street, Suite 110
West Chester, PA 19380
United States
Phone 1-844-425-5752
sales.us@allplan.com
allplan.com

Competence Center
Allplan Infrastructure
Tel: +43 316 269786
info.infra@allplan.com
allplan.com

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