BIM6^{x} POWER MANUAL

Issue 1.3

template@bim6x.com | www.bim6x.com/solutions

Copyright

This document is copyright © BIM6x. 2015 All rights reserved worldwide.

You may not copy, reproduce, publish, sell, rent, transmit or distribute, or otherwise use any of the contents of this document without prior written permission from BIM6x. Any trademarks, service marks, product names, corporate names or named features are assumed to be the property of their respective owners, and are used only for reference, without intent to infringe. There is no implied endorsement if one of these terms have been used within this document.

Disclaimer

This manual and all files included in the BIM6x Power Kit, including the BIM6x Power Template and BIM6x Power Project are intended for use as examples only. Use at your own risk. Not intended for actual construction. BIM6x will accept no liability for any problems encountered as a result of using these files.

Document Revisions

Author: Link Ellis

Revision	Issue Date	Comments
18.5100.04.03.15.1.3	4/4/2015	Issue 1.3

Front cover image: Created by Eduardo Rolón - entirely within ArchiCAD 18.
Project: BIM6x Power Project.

Acknowledgements

BIM6x would like to thank our following friends for their contributions to the creation of the BIM6x Power Kit files: **Elizabeth Ellis** for the countless late night hours spent on the overall BIM6x Power Project building design and specification data, **Kevin Wichmann** for framing, details and data, **Eduardo Rolón** for renderings and scenes, and Symm Vafeades for testing & input. Karl Ottenstein, Jared Banks, Rob Jackson, Nathan Hildebrandt, Tim Ball, László Nagy, Ben Frost, Kristian Bursell, Dave Sanders, Chris Lee, Ken Adler and Rob Carpenter for all your input and inspiration. To the hugely talented and friendly people in the Tech Support, Product Design & Engineering teams at Graphisoft in Hungary – köszönöm. To our beta testers, clients, wives (ArchiCAD widows), family, and anyone we may have missed, thank you all for your support.

TABLE OF CONTENTS

INTRODUCTION **7**

GETTING STARTED **9**

BIM6x POWER KIT 9

DOCUMENTATION *10*

BIM6x Power Layer Matrix 10

BIM6x Power Manual 10

EXAMPLE PROJECT *10*

BIM6x Power Project Library 10

BIM6x Power Project 10

EXTRAS *11*

BIM6x Folder Framework 11

BIM6x Library 11

BIM6x Sample Favorites 11

BIM6x Work Environment Profile (for Mac/PC) 11

METRIC *12*

BIM6x Migration Library 12

BIM6x Power Project Migration Library 12

TEMPLATES *13*

BIM6x Detail Catalog 13

BIM6x Module Maker 13

BIM6x Power Template 13

THE PROCESS OF CREATING DELIVERABLES – AN OVERVIEW **14**

DATA-RICH 3D MODELING 14

VIEWPOINTS 15

VIEWS 16

LAYOUT BOOK 18

PUBLISHER 19

IMPERIAL VS. METRIC **21**

GOING METRIC 21

BEFORE STARTING A PROJECT **23**

IMPLEMENTING THE TEMPLATE **24**

WORK ENVIRONMENT **25**

LIBRARIES **31**

METRIC 33

FAVORITES **34**

THE TEMPLATE STRUCTURE **36**

A PRE-LINKED SYSTEM 36

PROJECT MAP 37

Viewpoints *37*

Stories 37

Main Work Area 38
Sections 40
Building Sections 40
Wall Sections 41
Elevations 42
Interior Elevations 43
Worksheets 45
[Detail Layouts] 45
[Detail Markers] 45
[Import Data] 45
[Welcome] 45
Electrical Legend 46
Legends 46
Lighting Legend 47
Location Map 47
North Symbol 48
Standard Notes 48
Details 48
Live Details 49
Standard Details 51
3D Details 52
3D Documents 52
!!Please Name Me!! 52
3D Room & Structure Details 53
Front, Left, Rear, Right Views 53
3D 53
Generic Perspective 54
Generic Axonometry 54
BIMx Gallery Views 55
No Cameras 55
Schedules 56
Element Lists 56
Element Parameters 56
Object Parameters 57
IFC Properties 58
Audits 59
Legends 60
Schedules 61
Component Lists 63
Schedules 63
Project Indexes 64
Audits 64
Sheet Indexes 65
Change List 65
Issue Register 65
Lists 66
Info 66
Project Info 66
Report 66
VIEW MAP 68
View Sets & Views *68*
Marketing Set View Set 71
Schematic Design View Set 72

Design Development View Set 73
Construction Documentation View Set 74
Issue Register View Set 75
BIMx View Set 76
IFC View Set 76
IFC for COBie View Set 76
Renders View Set 76
Energy Evaluation View Set 77
[Not in Use] View Set 77
LAYOUT BOOK 78
Master Layouts *79*
Title Blocks 81
Titles 86
Drawings *87*
Subsets & Layouts *89*
Marketing Set Layouts 92
Schematic Design Layouts 92
Design Development Layouts 92
Construction Documentation Layouts 92
Issue Register Layouts 92
[Not in Use] Subset 94
PUBLISHER 95
BIMx Pro: Save Publisher Set *96*
BIMx Pro: Upload Publisher Set *97*
DWG Publisher Set *98*
Excel Publisher Set *99*
IFC Publisher Set *99*
IFC for COBie Publisher Set *100*
PDF Publisher Set *100*
Print Publisher Set *101*
Renders Publisher Set *103*

REVISION MANAGEMENT 106

ISSUES 106
CHANGES 109

DATA 112

IFC PROPERTY SETS 112
AUTOMATIC LABELS 116
FIND & SELECT CRITERIA 120
BCF 121

ENERGY EVALUATION 122

ATTRIBUTES 123

LAYERS 123
LAYER COMBINATIONS 125
PEN SETS 126
PENS & COLORS 130
FILL TYPES 141
COMPOSITE STRUCTURES 141

PROFILES 142
SURFACES 142
BUILDING MATERIALS 146
ZONE CATEGORIES 147
CITIES 147
OPERATION PROFILES 147

PROJECT SETTINGS 148

SCALE 148
PARTIAL STRUCTURE DISPLAY 149
MODEL VIEW OPTIONS 151
RENOVATION FILTERS 153
Design Options 154
DIMENSION STANDARDS 156
ZOOM 158
MARK-UP STYLES 159
GRIDS & BACKGROUNDS 160
PROJECT LOCATION 162
REFERENCE LEVELS 163
PROJECT NOTES 165
PROJECT INFO 166
TRANSLATORS 167
DXF-DWG Translators 167
IFC Translators 168

DETAIL CATALOG 169

MODULE MAKER 174

APPENDIX 177

FONTS 177
BIM6x FOLDER FRAMEWORK 178
ArchiCAD Folder 178
BIM Management Folder 179
BIM Templates Folder 180
Libraries & Add Ons Folder 180
Projects Folder 181

INTRODUCTION

Welcome and congratulations on taking a giant leap in your BIM journey. The BIM6x Power Kit combines the BIM6x Power Template, the BIM6x Power Project and the BIM6x Power Manual, along with supplementary files, to streamline the process of modeling buildings and publishing presentations, documentation & data.

The BIM6x Power Template is designed to serve as a launching point for new users to start their BIM journey and for existing users to get the very most out of ArchiCAD. The template encompasses almost every aspect of the program, implemented the way Graphisoft intended. As a fully pre-linked system it has the power to complete a four story building from start to finish, from the moment you open it – no customizing the defaults, no creating views, no placing drawings on layouts, no creating publisher sets. It's all there right from the beginning.

The template structure is very comprehensive and suits most typical architectural workflows. As the culmination of over 17 years of development it is the result of thousands of discussions with new, intermediate and advanced users from all over North America, and from clients all around the world. From solo practitioners to firms with over 100 staff, this template is designed to maximize your success with ArchiCAD. With over 35 years of experience implementing ArchiCAD, we clearly understand that templates are very personal and each one is a living breathing document that requires continual tweaking. The BIM6x Power Template is not intended to be a final solution for everyone. Some users will find it addresses all their needs and more, while other users will customize it dramatically. So don't worry, it *is* highly customizable and designed to provide a robust framework that you can easily reverse engineer and tailor accordingly. It is designed to provide too much information so that you can delete whatever you don't need. This subtractive methodology is ideal because it is much faster to delete things than it is to create them. But if you do need to create new things to suit your workflow, you will have an existing structure to help guide you. This will result in a template that will enable you to complete projects with confidence, predictability and reliability.

The complementary BIM6x Power Project contains a detailed model of a three-story, mixed-use, data-rich building pre-linked onto nearly 240 layouts. This will greatly help you understand the best practice methods of modeling, data management, layouting and publishing. And the BIM6x Power Manual explains every step and every setting in considerable detail. If you ever do get stuck, we're only an email away!

The BIM6x Power Template was built from the ArchiCAD 18 Residential Template (US Version) supplied by Graphisoft out-of-the-box. Many of the ArchiCAD attributes and project settings in the template are left untouched from their originals to keep things as simple and consistent with Graphisoft as possible. We recommend that you try the template on a test project as-is before customizing it too much. It's vitally important that you have a good understanding of what it achieves before over-modifying it. It is also important to note that the template is intended for new projects only. Due to the very nature of ArchiCAD's Attribute Management, this template is not designed to use elements from past projects. So enjoy a fresh start! Don't worry, your existing ArchiCAD information can still be used - to some extents.

This BIM6x Power Manual is intended to assist you in using the BIM Power Template and complementary files. From opening the template for the very first time, to getting familiar with the structure of the project map and layout book, to understanding the use of attributes, to becoming confident with more advanced features such as revision management and IFC Data manipulation, and even contemporary methods of cataloging details and making modules. The manual is not intended to teach you how to use ArchiCAD, although you will certainly learn a lot of valuable techniques. We strongly recommend you make a copy of the template and read through the manual as you test things out in the ArchiCAD file.

We also recommend familiarizing yourself with the ArchiCAD Reference Guide available from ArchiCAD's Help menu, the ArchiCAD Help Center at helpcenter.graphisoft.com, or the many helpful ArchiCAD Videos on YouTube at www.youtube.com/user/ArchiCAD. Plus there is always valuable help offered at the ArchiCAD community forum at http://archicad-talk.graphisoft.com. Or if you want fast, concise and comprehensive one-on-one training in your office, go ahead and contact us at BIM6x. We have decades of training experience and can tailor a solution that suits you.

p.354 Throughout this manual you will see this icon. It represents the AC 18 Reference Guide as found under ArchiCAD's Help menu and the page number which explains the denoted topic.

You will also see this icon accompanied by orange italicized text. This indicates a tip on how to customize the settings of the template to suit your own needs. These tips combined with the ArchiCAD 18 Reference Guide references should give you all the assistance you need to modify your template.

All screenshots in this manual are taken from the PC version of ArchiCAD. Apologies to all Mac lovers out there. We love Mac too, but had to choose one platform to demonstrate and PC won out (this time – watch for future manuals!).

We trust that the BIM6x Power Kit will be of great help to you. At BIM6x we believe everything we do leads to creating buildings better - through boosting your profitability and passion by implementing innovative BIM solutions, providing responsive support, and offering personalized services. The BIM6x Power Kit is the foundation of our promise to you. We believe it is the best template commercially available anywhere in the world. It has already proven to be very popular and the concept has successfully pushed productivity and efficiency across all user levels. We are very confident that once you get the hang of it, you'll wonder how you survived without it! If you have any questions, concerns or comments please go ahead and contact us at template@bim6x.com

Believe. Create. Deliver. Enjoy your journey!

Cheers,
Link & Chris.

GETTING STARTED

By now you should have downloaded the BIM6x Power Kit. If not please visit www.bim6x.com/solutions where you can log in and download it.

BIM6x POWER KIT

The **BIM6x Power Kit** contains all the files you need to get started. It consists of four subfolders which contain the following files, which will be described in the next section:

DOCUMENTATION

• BIM6x Power Layer Matrix	Excel 2013 format
• BIM6x Power Manual	PDF format

EXAMPLE PROJECT

• BIM6x Power Project Library	Zip format
• BIM6x Power Project	ArchiCAD 18 PLA format

EXTRAS

• BIM6x Folder Framework	Zip format
• BIM6x Library	Zip format
• BIM6x Sample Favorites	Zip format
• BIM6x Work Environment Profile (for Mac)	Zip format
• BIM6x Work Environment Profile (for PC)	Zip format

METRIC

• BIM6x Migration Library	Zip format
• BIM6x Power Project Migration Library	Zip format

TEMPLATES

• BIM6x Detail Catalog	ArchiCAD 18 PLN format
• BIM6x Module Maker	ArchiCAD 18 PLN format
• BIM6x Power Template	ArchiCAD 18 PLN format

You will need to download these to suitable locations on your computer or network. Please refer to the BIM6x Folder Framework in the Appendix if you need advice on how and where to store all these files. See BIM6x Folder Framework.

DOCUMENTATION

BIM6x Power Layer Matrix

The BIM6x Power Layer Matrix is a spreadsheet which shows what layers are visible in each layer combination. It also indicates what type of elements should go on each layer. This file will need to be continually updated as you add/remove layers and adjust their visibility in each layer combination.

BIM6x Power Manual

The BIM6x Power Manual is the manual you are reading now. It is a comprehensive guide to implementing and customizing your template. This manual will be continually updated, so please be sure to check www.bim6x.com/solutions to make sure you have the most current version.

EXAMPLE PROJECT

BIM6x Power Project Library

The BIM6x Power Project file calls for specific parts and textures which are only contained in the BIM6x Power Project Library. Managing Libraries is explained in the Libraries Section. See Libraries.

This library may reside in your Additional Libraries folder as outlined in the BIM6x Folder Framework section of the Appendix. See Libraries and Add Ons Folder.

BIM6x Power Project

The template is supplemented with the BIM6x Power Project. This is a fully modeled, three story, mixed use building (pictured on the front cover), with over 850 views pre-linked onto nearly 240 layouts. The model contains at least one of each type of model element as well as most other element types, and is data-rich containing IFC data, preliminary COBie data, schedules, and project indexes. Additionally the project has a variety of professionally created CineRender rendering scenes and publishing sets, and so much more.

The advantage of such a detailed example project lies in the fact that you can inspect what has been built in the model and the project structure, then reverse engineer and modify the methodology to suit your own needs.

At this stage it does not contain any additional 2D information such as notes, interior elevations, details, etc. In the future we plan to provide a fully completed set of Construction Documents, including Architectural, Structural and MEP.

EXTRAS

BIM6x Folder Framework

This framework consists of a comprehensive set of empty folders and subfolders. If you are new to ArchiCAD or are looking for good ideas on how to file your ArchiCAD-related data, then this BIM6x Folder Framework will introduce you to some best practice concepts. See BIM6x Folder Framework.

BIM6x Library

The BIM6x Power Template calls for specific parts and textures that are only contained in the BIM6x Library. Managing Libraries is explained in the Libraries Section. See Libraries.

BIM6x Sample Favorites

The template is supplied with a sample set of Favorites p.330 These Favorites are examples only and are provided simply to demonstrate their use. These particular favorites can actually be used to start creating the BIM6x Power Project.

Favorites are discussed in detail in the Favorites section. See Favorites.

BIM6x Work Environment Profile (for Mac/PC)

ArchiCAD's Work Environments customize the way each user interacts with the program. They are intended to be specific to each user, rather than using a single profile for everyone in the company. The BIM6x Work Environment Profile is provided as a good starting point for a single monitor user. There is one for PC and one for Mac as the interaction, mostly keyboard shortcuts, differ slightly between the two.

Work Environment Profiles are discussed in the Work Environment section. See Work Environment.

METRIC

This folder is only for International users who use the INT version or any non-US version of ArchiCAD who use metric.

BIM6x Migration Library

This library is required when you migrate the BIM6x Power Template to the ArchiCAD 18 INT Version. When you open the BIM6x Power Template in the INT version for the first time, you will need to replace the ArchiCAD Library 18 (which in the template referencing the US version), with the INT version. It will be missing some items that are not contained in the INT version, but are contained in the BIM6x Migration Library. This is covered in the Metric section of Libraries. See Metric.

BIM6x Power Project Migration Library

This library is required when you migrate the BIM6x Power Project to the ArchiCAD 18 INT Version. When you open the BIM6x Power Project in the INT version for the first time, you will need to replace the ArchiCAD Library 18 (which in the template referencing the US version), with the INT version. It will be missing some items that are not contained in the INT version, but are contained in the BIM6x Power Project Migration Library. This is covered in the Metric section of Libraries. See Metric.

TEMPLATES

BIM6x Detail Catalog

This template is used for creating, editing and publishing Standard Details. See Standard Details.

Once published, the details will reside in your Details folder as outlined in the BIM6x Folder Framework section of the Appendix. See BIM Management Folder.

From there the details can be merged into the relevant Standard Details detail windows in your project. See Detail Catalog.

BIM6x Module Maker

This template is used for creating, editing and publishing modules of elements that you regularly use in your projects. These can consist of room arrangements, kit of parts, etc, anything that is used with regularity. Once published, the modules will reside in your Modules folder as outlined in the BIM6x Folder Framework section of the Appendix. See BIM Templates Folder.

From there the modules can be merged or hotlinked into your project. See Module Maker.

BIM6x Power Template

This is the template – the star of the show! It is provided completely free of any 3D content, ready for you to start customizing or using as-is.

THE PROCESS OF CREATING DELIVERABLES – AN OVERVIEW

This section is intended for new ArchiCAD users who are not familiar with the process of creating deliverables in ArchiCAD. Or perhaps those existing users who are just looking for some clarification.

Data-rich 3D Modeling

In ArchiCAD we model buildings. How much we model depends on how much work we want to put in vs. how much information we want to get out. For example we generally wouldn't model concrete reinforcement bars throughout the model as it is just easier to draw a couple of small circles in section and in details and leave the rest to the structural engineer. Unless of course we wanted to quantify it all, in a schedule perhaps. The point is, within reason, we *model* just about everything.

For those coming from AutoCAD® or any other 2D program that means we don't draw two lines to represent a wall in plan. We use the Wall tool that shows a wall as two (or more) lines in plan, but also creates a 3D wall that automatically appears in the 3D window, sections, elevations, details, 3D documents, etc. We use the Window tool to place 3D windows into those walls. And the Door tool to place 3D doors, all of which effectively become part of those walls. We draw the outline of a slab in plan using the Slab tool, which creates a 3D slab, and so on. ArchiCAD provides all the usual architectural elements as 3D modeling tools, available in the toolbox, pictured to the right. In ArchiCAD you can hover your mouse over the tool and the tool tips (which are on by default) will show you what each tool is. Also, right clicking on ArchiCAD's interface and selecting What's This? will launch the online Interactive System.

The 3D modeling Tools in ArchiCAD

As we create our virtual building we use ArchiCAD's 2D tools to annotate over the top of our 3D model. Some of these can be associated to the model, such as dimensions and labels. When the model changes the dimensions will update to reflect the new sizes. The data that we enter into 3D elements can be pulled out by labels automatically. The more automation the better, but we can add static 2D elements too. For example we can use lines and fills to embellish a large scale detail.

And it's not just about the 3D model that gives us free sections and elevations, or the 2D elements to annotate them, but equally if not more importantly, it's about the data that we can pull out of the model. From the automatic labels, to schedules and indexes of information that ArchiCAD instantly provides, to detailed IFC models that contain all the geometry and all the data to be shared with users of a multitude of other software packages.

The 2D annotation Tools in ArchiCAD