BIM 360 Design Technical Manual

Contents

Introduction to BIM 360 Products

AUTODESK® BIM 360™

DOCS	DESIGN	GLUE	BUILD
For all project stake-holders who need controlled access to	For teams who need to collaborate in real-time on Revit mod-	For teams who need to coordinate multidiscipline	For teams who need to collaborate on work performed dur-

Previously separate point applications has been brought together into a single BIM 360 Brand that support Design, Build & Operate. BIM 360 is our Autodesk's AEC cloud platform for project delivery and construction management. The BIM 360 platform is available in four offerings: BIM 360 Docs, BIM 360 Design, BIM 360 Glue and BIM 360 Build.

BIM 360 Subscription Entitlements

This next-generation platform removes the need for single point applications and unifies your project data. The unified BIM 360 solution aggregates the data and provides transparency to project stakeholders making everyone more accountable and improving visibility in real time.

BIM 360 Docs
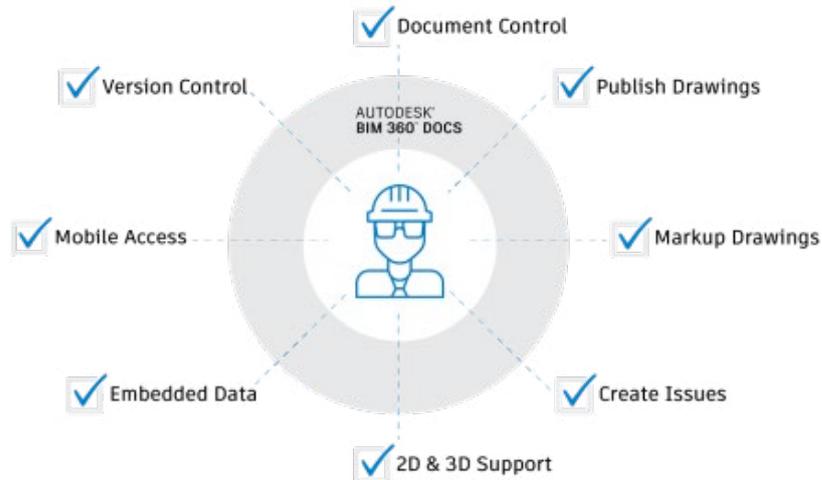
The Document Management module, included in all BIM 360 products, or purchased as a stand-alone as BIM 360 Docs, is the foundation for all work managed in BIM 360. As any AEC project kicks off, this is where it should start. It's the place to centralize, control and give access to project information for all team members.

Document Management: Controlled access to all project documents, plans and models, serving as the single data repository for BIM 360.

BIM 360 Design
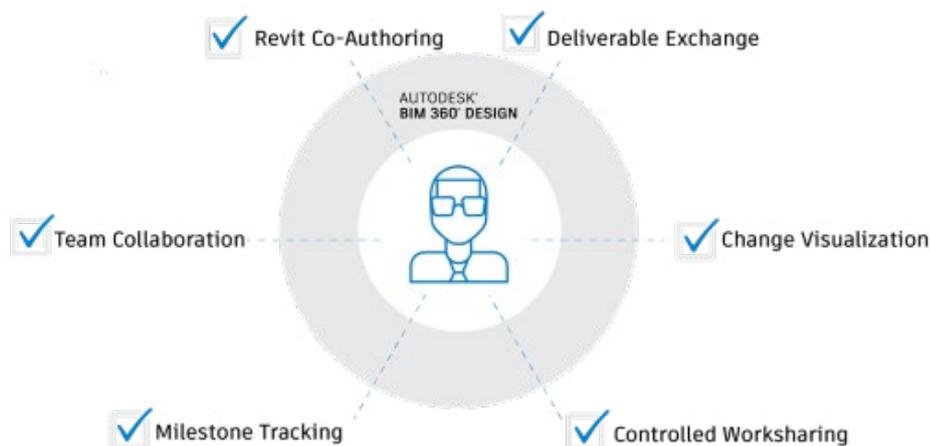
Design teams will start their work in BIM 360 Design. This is our next generation design collaboration solution for controlled cloud worksharing, milestone and deliverable tracking across teams. Customers using C4R asked us for greater control over shared models and access—and we are delivering it.

Cloud Worksharing: Co-author Revit models in real time and review design development with the extended team at any time.

Design Collaboration: Control design deliverable exchange to keep the right information in the right hands throughout the project.

Document Management: Controlled access to all project documents, plans and models, serving as the single data repository for BIM 360.

BIM 360 Glue
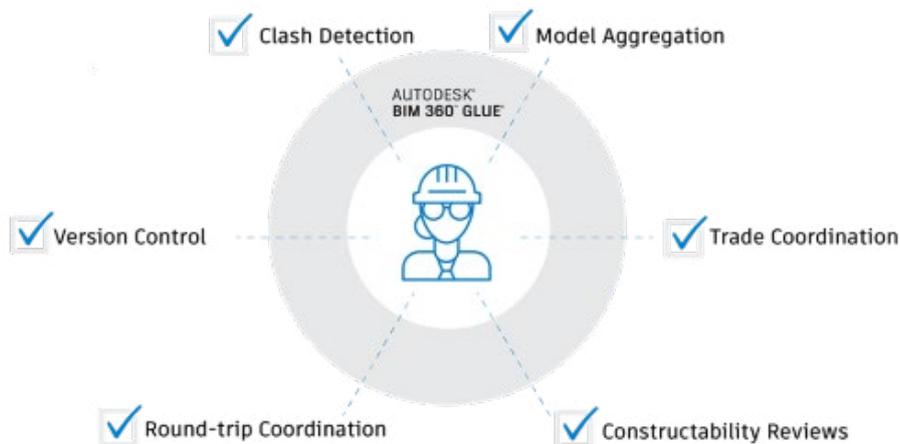
As the project moves to Preconstruction, contractors and VDC managers will work in next-generation BIM 360 Glue, now available and connected to the same common data platform in BIM 360, for model coordination and constructability reviews. Tasks such as clash detection are automated allowing insights to be provided in real time to inform the project.

Model Coordination: For 3D projects, offers simplified model aggregation, viewing and automated clash detection

Document Management: Controlled access to all project documents, plans and models, serving as the single data repository for BIM 360.

BIM 360 Build
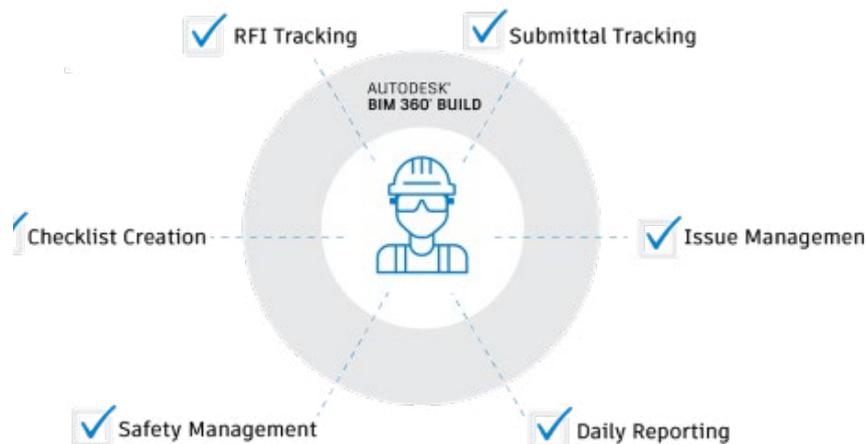
As the project moves to the construction site, teams can work in BIM 360 Build, the field management solution. BIM 360 Build also includes RFIs and submittals workflows keeping critical project data centralized and accessible. Subcontractors and trades can now respond to submittals in the same system as they manage quality programs. And all work is tracked and auditable.

Field Management: Issue management, checklists and daily reports for on-site execution and collaboration between the field and the office

Project Management: Creation, assignment and approval of RFIs & Submittals with controlled workflow processes across teams .

Document Management: Controlled access to all project documents, plans and models, serving as the single data repository for BIM 360.

Getting started with BIM 360 Design

Assigning Access to BIM 360 Design

BIM 360 Design access will need to be assigned to individual users by a Contract Manager or Software Coordinator. Please scan this code to see how to set user permissions for products, services & support (classic view)

BIM 360 Account Administration

Through the Account Administration portal, you can manage your BIM 360 account, including projects, members, and companies. You can link to Account Administration directly by visiting admin.b360.autodesk.com. BIM 360 has two levels of administration to ensure security and control across your projects: Account Administration and Project Administration. Only Account Admins have the ability to create new projects, activate BIM 360 services, and assign Project Administrators.

What's the difference between Account Administration and Project Administration?

Account Admin
- Create projects & activate services
- Add or remove members
- Assign project admins
- Assign additional account admins

Project Admin
- Add or remove members to project
- Set permissions & visibility
- Adjust project details

After your BIM 360 subscription is activated, the Account Administrator receives an email with a get started link.

B AUTODESK BIM 360

Welcome to Autodesk BIM 360

Only one step remains to complete setup. Select the button below to activate your account and access Account Administration for Global Construction.

Activate your account

Once signed in to BIM 360 Account Admin, you will be able to:

- Assign additional Account Admins
- Create projects and activate BIM 360 services
- Assign project admins
- View account analytics

Please note: This welcome email is meant for you only. Do not forward it. The first time you access BIM 360 Account Administration, you must do so from this invitation.

Add Autodesk BIM 360 to your address book to ensure you receive emails. For more information, visit BIM 360 Help.

Click the **Activate your account** button to launch the Account Administration portal. Here you can sign into Account Administration using your Autodesk ID. If you don't have an Autodesk ID, click the **Create Account** button.

Note: Each welcome email is meant for only one person - do not forward it to others. The first time you access account administration, you do so from the email invitation.

Signing into your BIM 360 Account Administration Portal

Sign into the BIM 360 Account Administration Portal with this link: https://admin.b360.autodesk.com/

Configuring your BIM 360 Administration Account

When you first sign in to BIM 360 Account Administration, use the Account Settings profile page to customize your account. You can upload your company logo, edit how your account name appears in BIM 360, invite account administrators, and define your business units.

**To customize your account:**

1. In account administration, click **Settings**
2. Click the **Profile** tab
3. Click **Add Account Image** and upload an image or logo
4. For the account name, click the pencil icon and enter a name as you want it to appear in BIM 360 and in notifications. Then click **Save**
5. Under **Account Administrators**, you can add more administrators. This important step ensures that you are not a single point of failure for account management. Click **+** and enter a name or email address. Then click **Save**
6. New account administrators will receive a welcome email that allows them to access their BIM 360 account and sign in

Setting Up a BIM 360 Project

Account administrators can create projects and assign project administrators to BIM 360 services. When you create a project, add information used for company reporting and analytics and ensure that all team members have consistent project information across workflows.

To Create a Project:

1. In account administration, click **Projects**, then **Add**

2. In the Create Project Profile dialog, specify the project name and enter the project information.

   Required fields are marked with an asterisk

3. Specify the language. English is the default
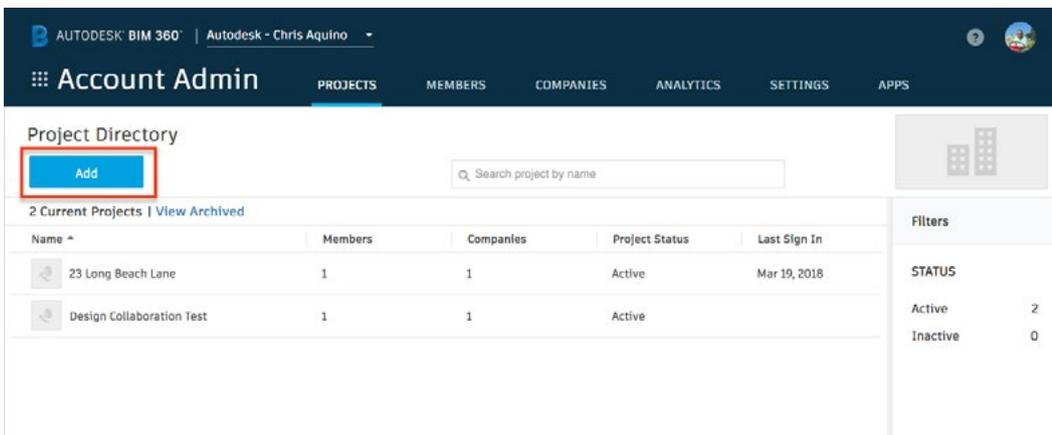
Activating Services

After creating a project profile, choose the services you want to activate. For BIM 360 Design, activate the **Document Management** *and* the **Design Collaboration** services on the Project.

Note: The services displayed vary depending on which services were purchased.

Assigning Project Administrators

Account Administrators can activate services and add project administrators to a project.

To add Project Admins to a new project:

1. In account administration, click **Projects**.
2. Click a project in the list.
3. On the **Project Members** page, click **Services**.
4. For the BIM 360 service that you want to assign an administrator to, click **Activate**. For example, for BIM 360 Document Management, click **Activate** to add an administrator and integrate BIM 360 Document Management with the current project.

5. Enter the member's name or email. Click **Save** to send the welcome email. This email allows project administrators to sign in to the account with their Autodesk ID.
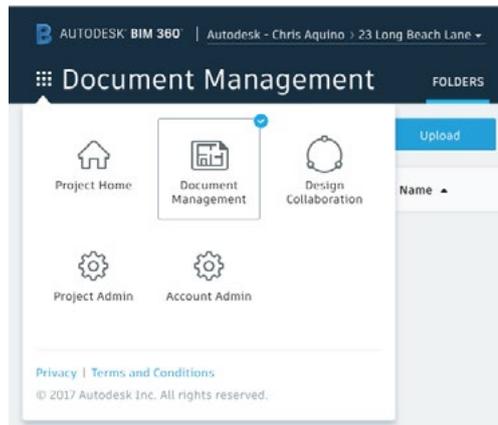
Note: Existing members are notified that they've been added to the account as project administrators.

Note: Account Admin will auto-populate already added team members or you can copy settings from other projects.

Once you've activated the services, you'll see the modules in the module picker.

Project Administration

As a project administrator you can:

- Organize Project folders
- Invite Project Members
- Set Folder Permissions
- Manage Files

Organize folders for the project

Every project starts with pre-configured top-level folders to support a specific process or data type. These folders are called Plans and Project Files. You can add subfolders to these folders. Use Plans to manage, publish, and review the latest set of construction documents, in both 2D and 3D formats. Use Project Files for any project document, including design data and all other document types.

Note: The Design Collaboration module only supports folders under Project Files. You can manually create subfolders for teams in the Document Management module, or through a managed path using the Design Collaboration module. The managed path is recommended as it creates the correct subfolders and its permissions. For more information, see the help topic, To Work with Folders.

To manually set up folders and subfolders:

1. Go to the **Document Management Module** and create a subfolder for each team.
2. Then go to the Design Collaboration Administrator to define them as teams.
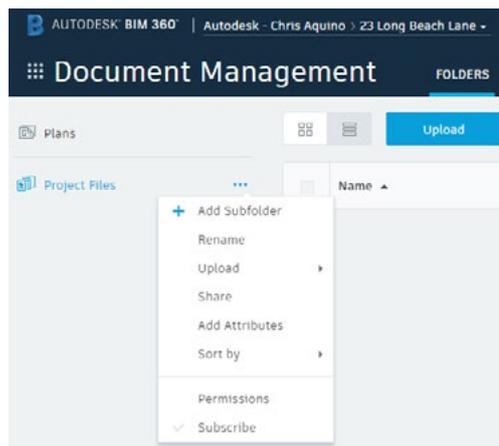
Warning: While it is possible to rename the "Project Files" folder, doing so will break functionality.
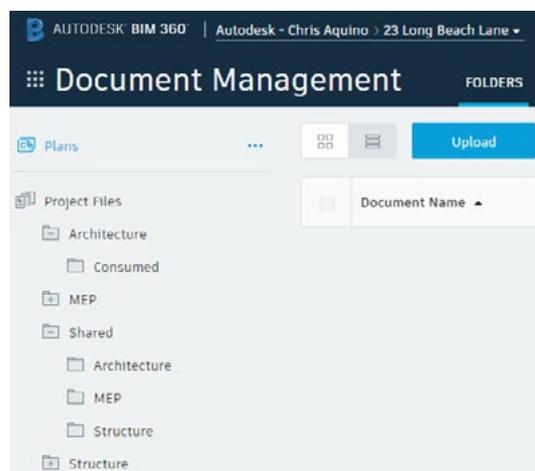
To assign a Team to the Folders:

With the team folders created, you can now assign teams to them.

Go to **Project Admin > Services > Add Team** and select the Team folder you wish to assign.

To go through the managed folder/subfolder path go to:

1. Go to **Project Admin > Services > Design Collaboration > Add Team**.
Note: new team folders are created with this approach. You can define the default location of these team folders at the lower section to this dialog.

1. Enter the desired Team name.

The newly created Teams and their paths display.

Invite Project Team Members

- Go to **Project Admin > Members > Add**.
  Note: After entering an email address, press Enter or add a comma.
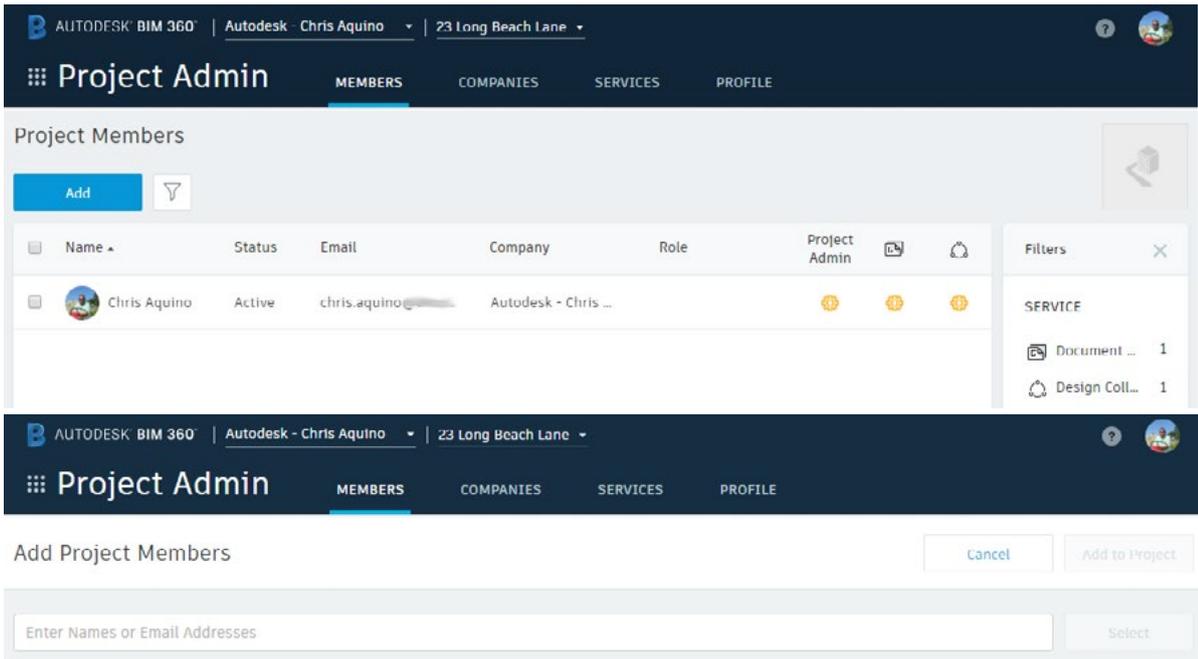
To invite those users to a Team (and set their permissions within the Team):

1. Go to **Project Administration > Services.**

2. Select **Design Collaboration.**

3. Select a team.

4. Click **Manage Team Members.**
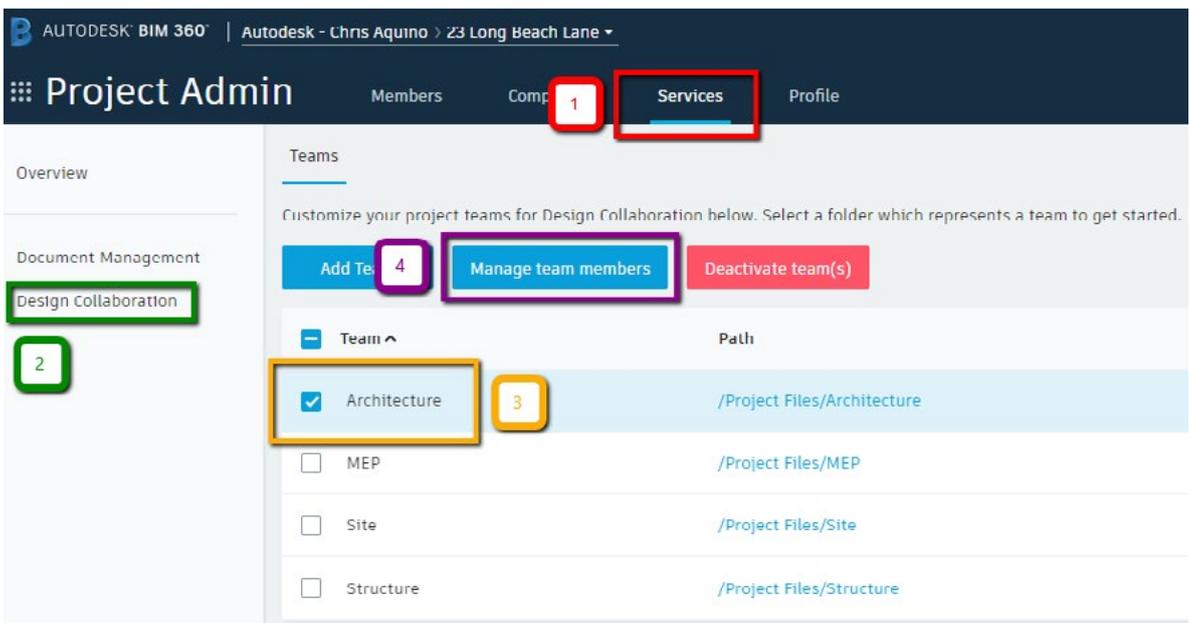
Here you can add individual users, all users of a certain role, or all users from a certain company.
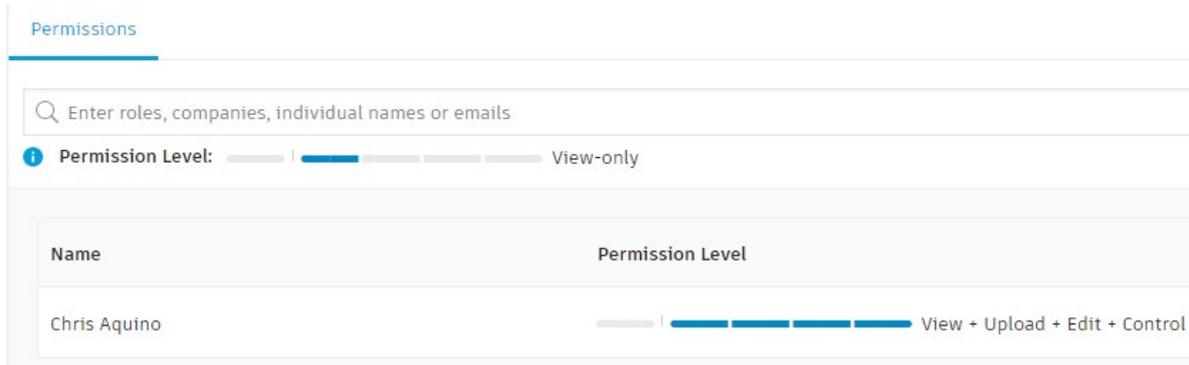
Design Collaboration requires certain permissions on folders and subfolders for the data exchange between the various project teams. These are set through the permission levels:

Working in Document Management

The Document Management module allows you to more granular control over permissions on the Project Files data.

Setting Folder Permissions

You can set permissions to restrict user access to certain folders, or limit access according to user role or company.
Sub-folders automatically inherit the permission level of the parent folder, but can be changed later. If changed, sub-folder permissions must match the access level of the parent folder, or else have a greater (less restricted) access level of the parent folder. Permission levels include:

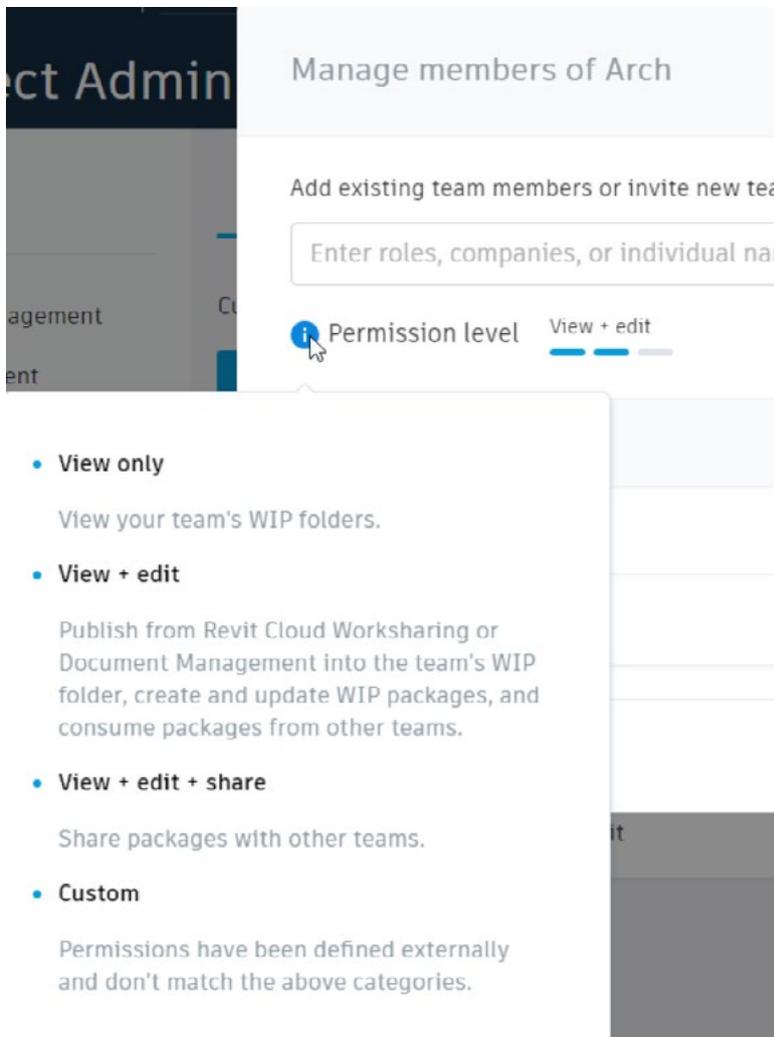- **Upload – only**
  User/role/company may share their own documents in that folder with other team members.

- **View – only**
  User/role/company may view documents and add mark-ups or issues, but cannot upload documents.

- **View + Upload**
  User/role/company may share their own documents with team members and view any other documents in that folder.

- **View + Upload + Edit**
  User/role/company may share their own documents with team members and view and edit any other documents in that folder.

- **View + Upload + Edit + Control**
  User/role/company may share their own documents with team members and view and edit any other documents in that folder. As part of the Controller (control) role they can also carry out tasks within that folder that are usually restricted to the Project Admin. This includes creating title blocks, adding project members and managing permissions. This permission level offers the greatest access to folders.

Note: Permissions can also be set at the folder, Role, Company, file and user levels. To set permissions, select the desired folder and select the **Permissions** option.
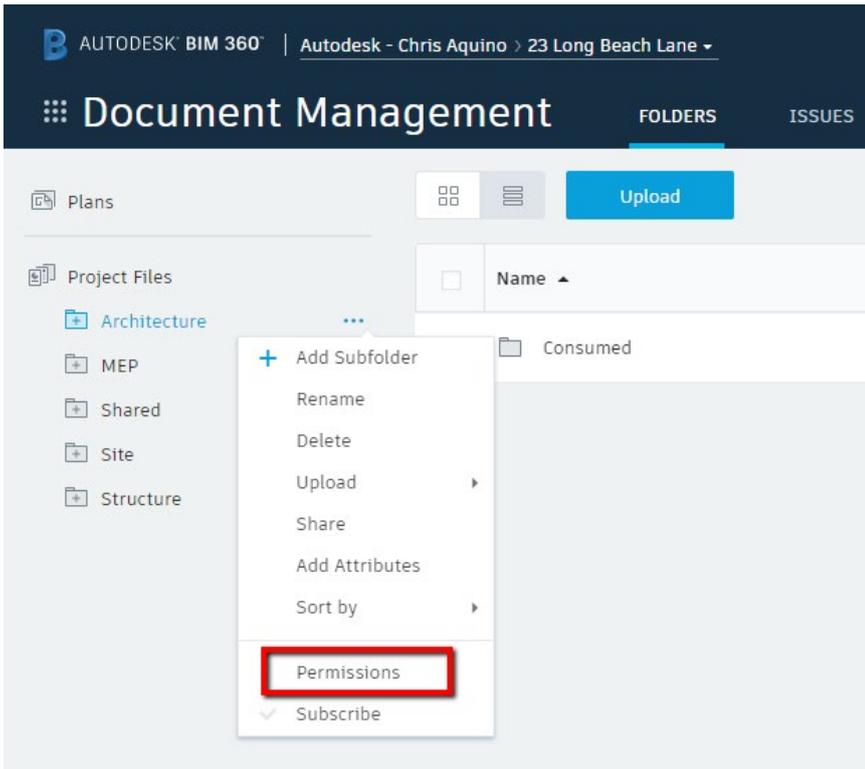
Here you can set the permissions for the folder and for each user in the folder.
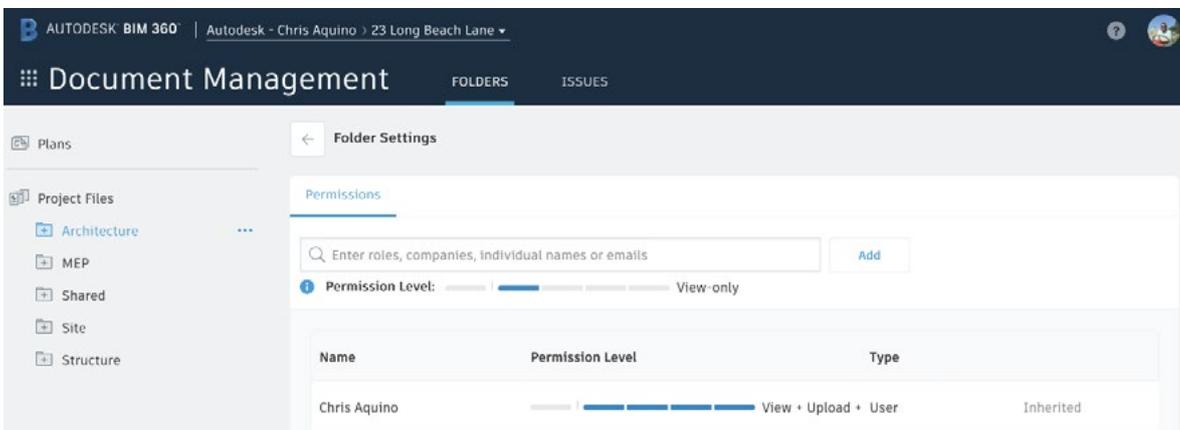
Managing Files

In Document Management you can Download, Move, Copy, Lock, Share, and Delete models.
Note: You must check the box next to the file you want to manage for the buttons to display.
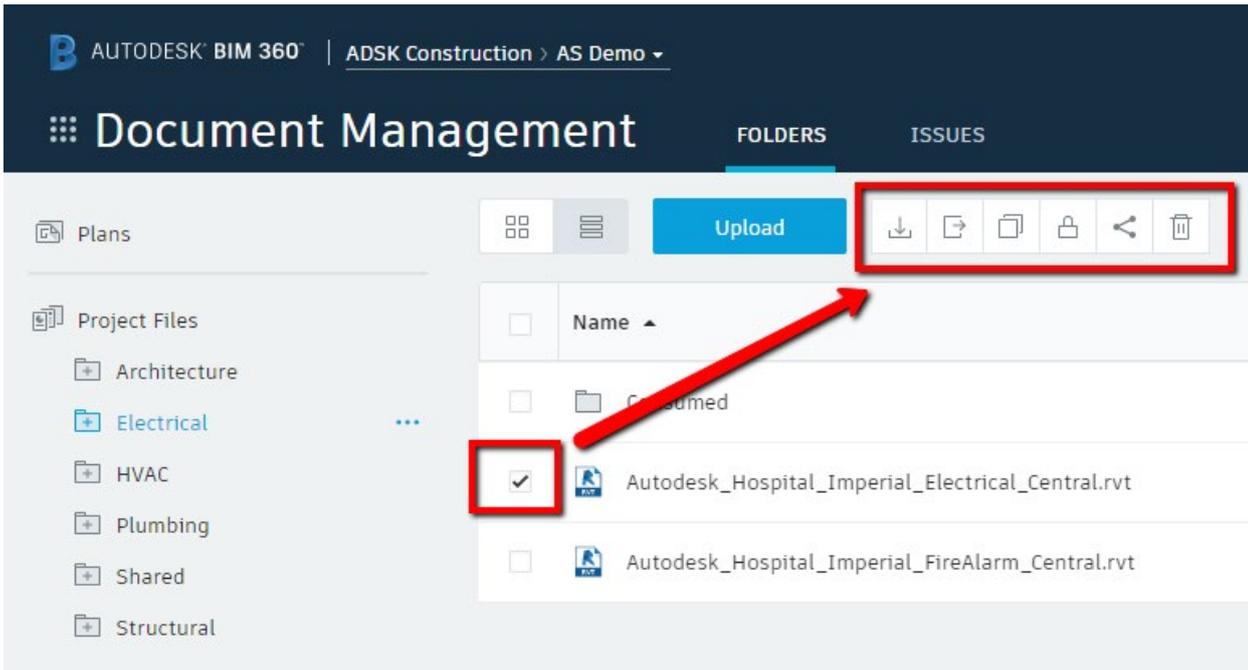
Note: Manage Cloud Models in Revit is now only for rolling the file back, and force relinquishing. You can also recover deleted cloud models.

In the Team folder, click **Deleted Items**.
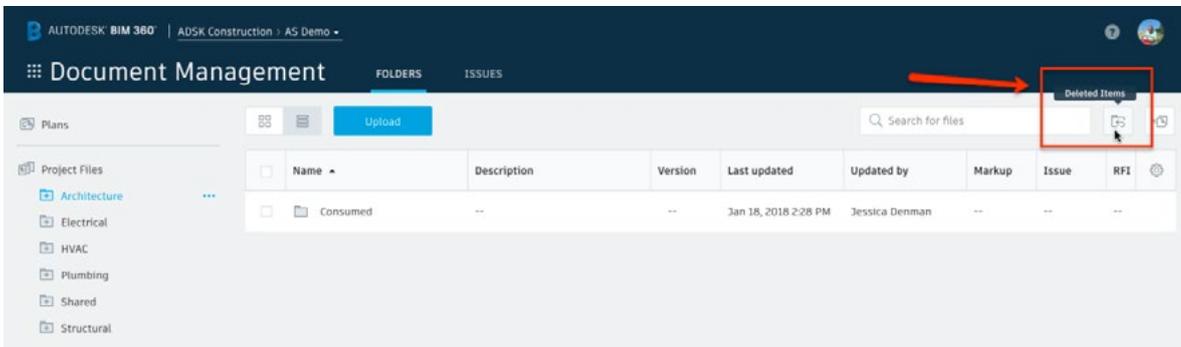
Any deleted items will be displayed.
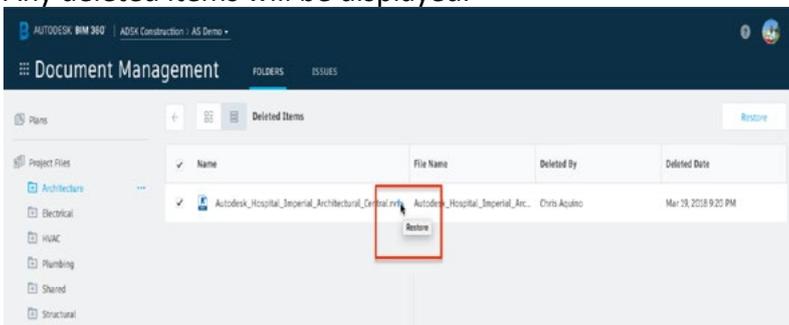
Working in Design Collaboration

The Team Space is your home portal in the Design Collaboration module. It provides an up-to-date viewing experience of the current state of the model. Here, you will see the swim lanes for each team, with the packages for each team shown as dots.

Packages and Package Statuses

Packages play a prominent role in the Design Collaboration module. If you're already familiar with Revit, you know that a Set equates to Sheets and Views generated by Revit. Extending upon this, a Package is the Revit Model and a Set. Packages have different levels of states that indicate their level of consumption.
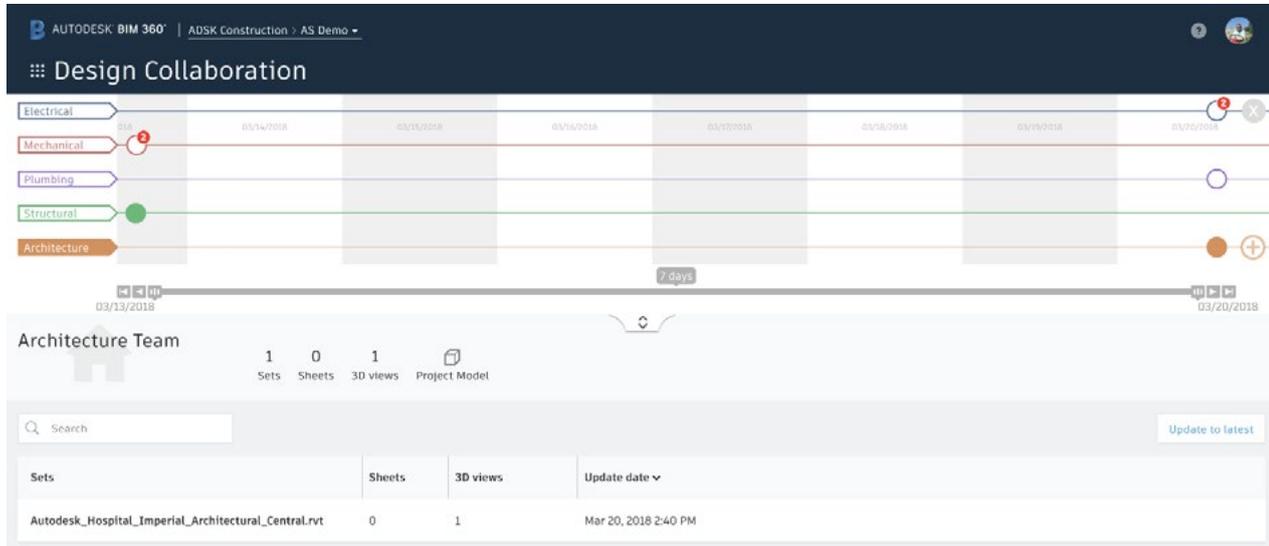
Node Type	Description
Shared	An empty node on another team's line means the package has been shared to the project, but you haven't consumed it yet.
Shared	A filled node on another team's line means you've consumed it.
BNIM	A filled node on your team's line means you've shared the package.
BNIM	A dotted-line node on your team's line means you've started a new package but haven't shared it yet.
	A numbered badge means there are clusters of packages. The two-tone color means some have been consumed, some have not. Click or zoom to expand the cluster.
	A numbered empty badge means 0 packages have been consumed. Click or zoom to expand.
	A numbered filled badge means all packages have been consumed. Click or zoom to expand.
	The plus node allows you to create a new package to share your team's work.

Setting up and Sharing Packages

To set up a package:

1. Select the + button at the right of your team's swim lane.

2. Edit the name of the package.

3. Select the set, or model you wish to share.

4. Select **Save**.

5. Click **Share**.
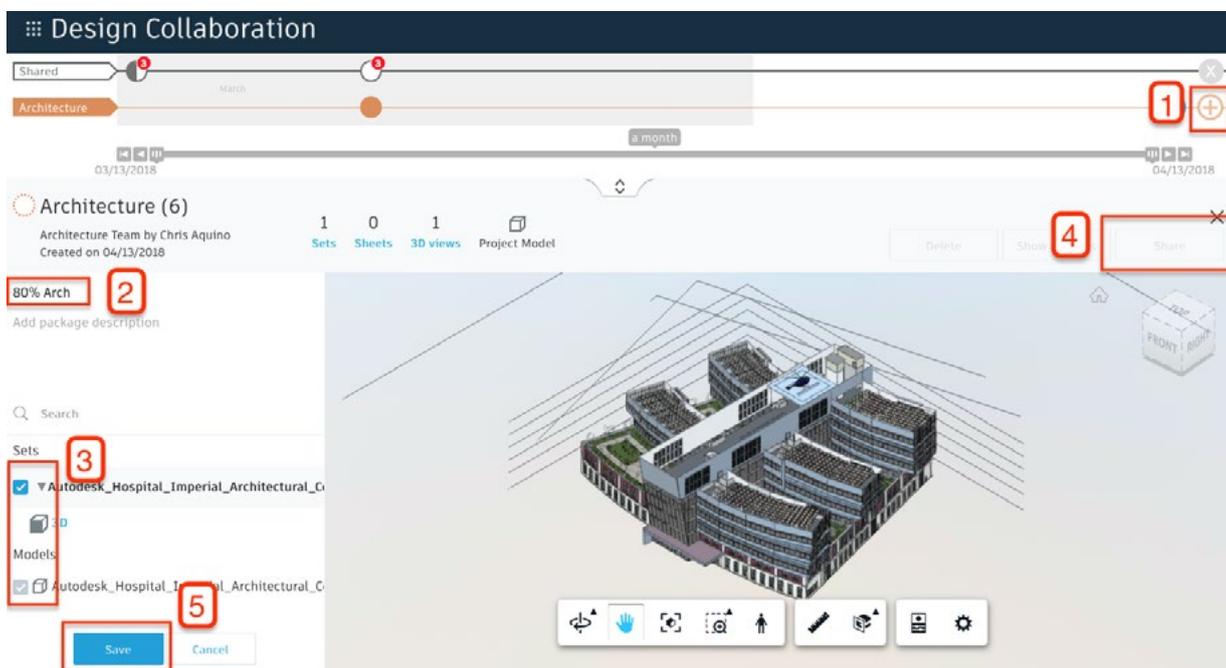
Setting permissions on who can share a package

Administrators can restrict who can View, Edit, and Share Packages.
To set up permissions:

1. In Project Administration click the **Services** tab.

2. Click **Design Collaboration**.

3. Select a team.

4. Click **Manage Team Members**.
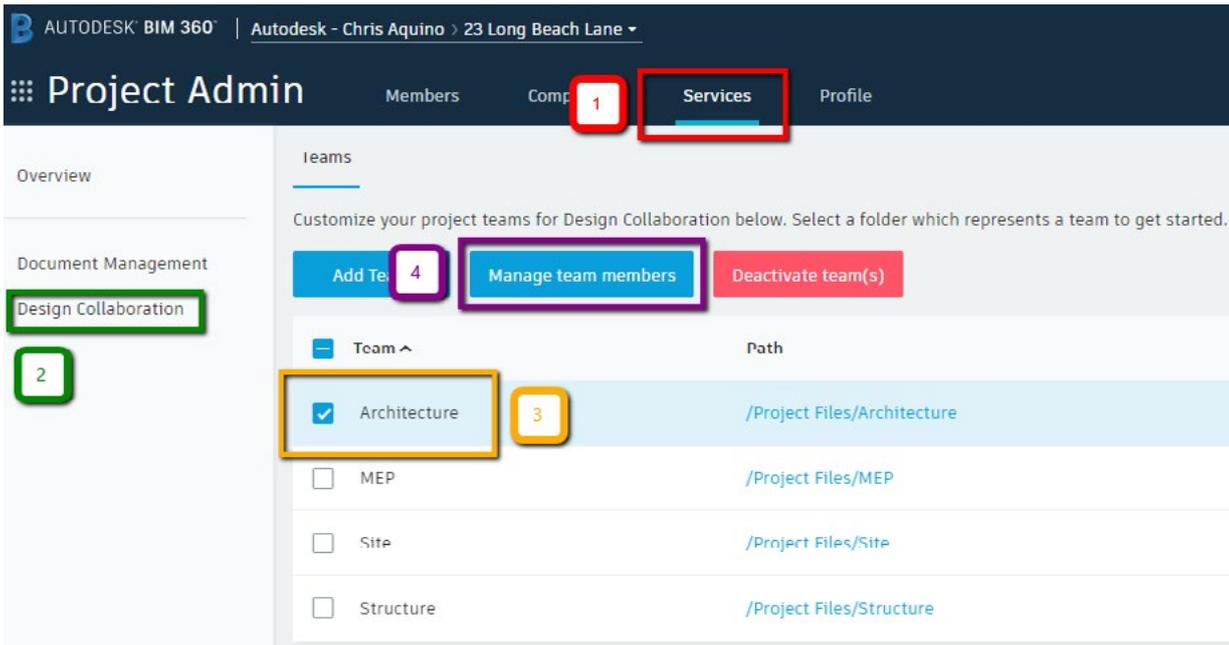
Note: You will need to do this after setting up Teams because Project Administrators can share packages until you add the new permission level. This only needs to be done one time.
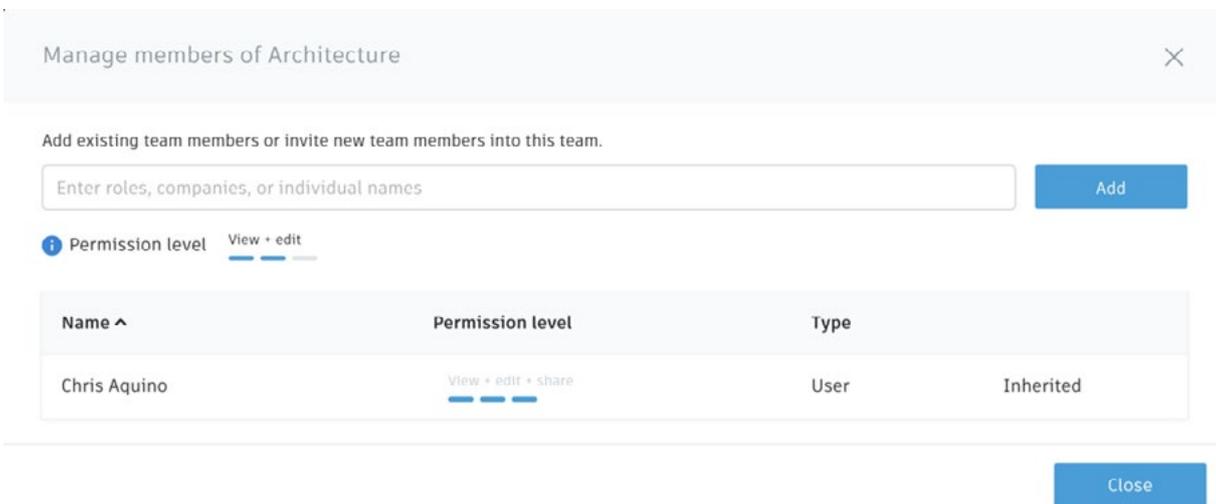
Consuming a Shared Package

Consuming a package means that you've brought another team's package into your environment, not to own it or take responsibility for it, but to see it combined together with your work and with all other teams' work.

If your Revit authors have linked into the other team's consumed online models, those Revit links are automatically updated in your team's authoring environment. You will see the consumed files in the Consumed subfolder under your team folder in the Document Management module.

To consume a package:

1. Go to the shared swim lane

2. Select an available package by clicking the dot.

3. Click **Consume.**
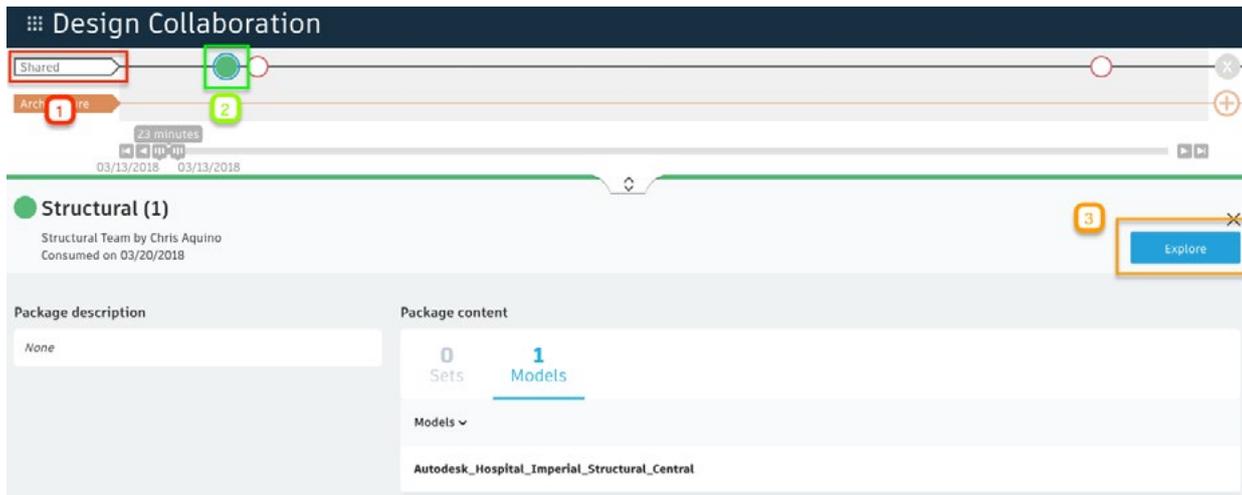
The file(s) in the consumed package will then show up in the "Consumed" folder for your Team in the Document Management folder.
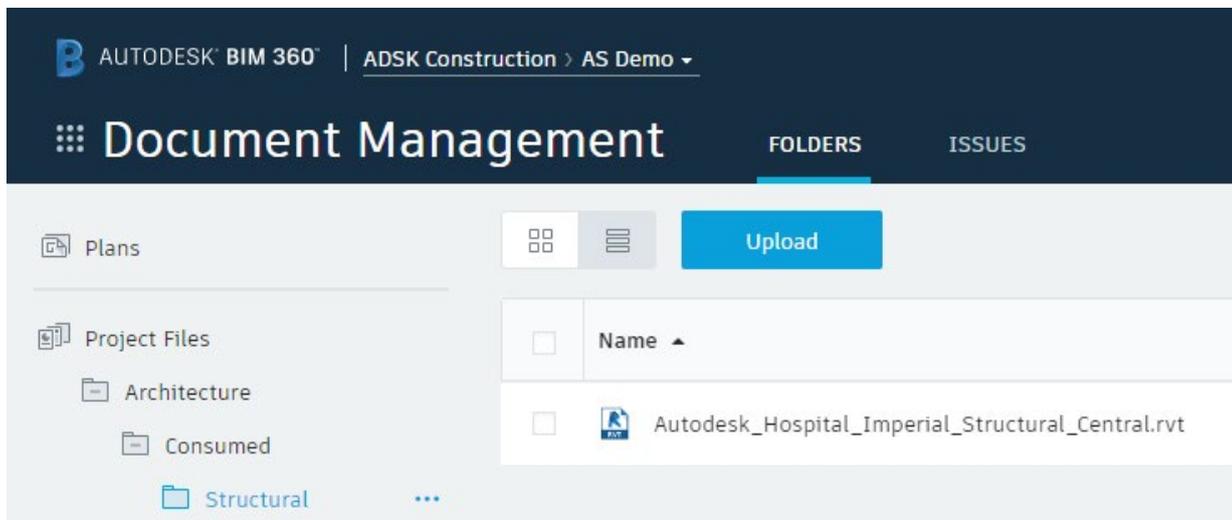
Track changes in a package

To see what has changed in a published package click the *Dot of the package > Explore > Show Changes*
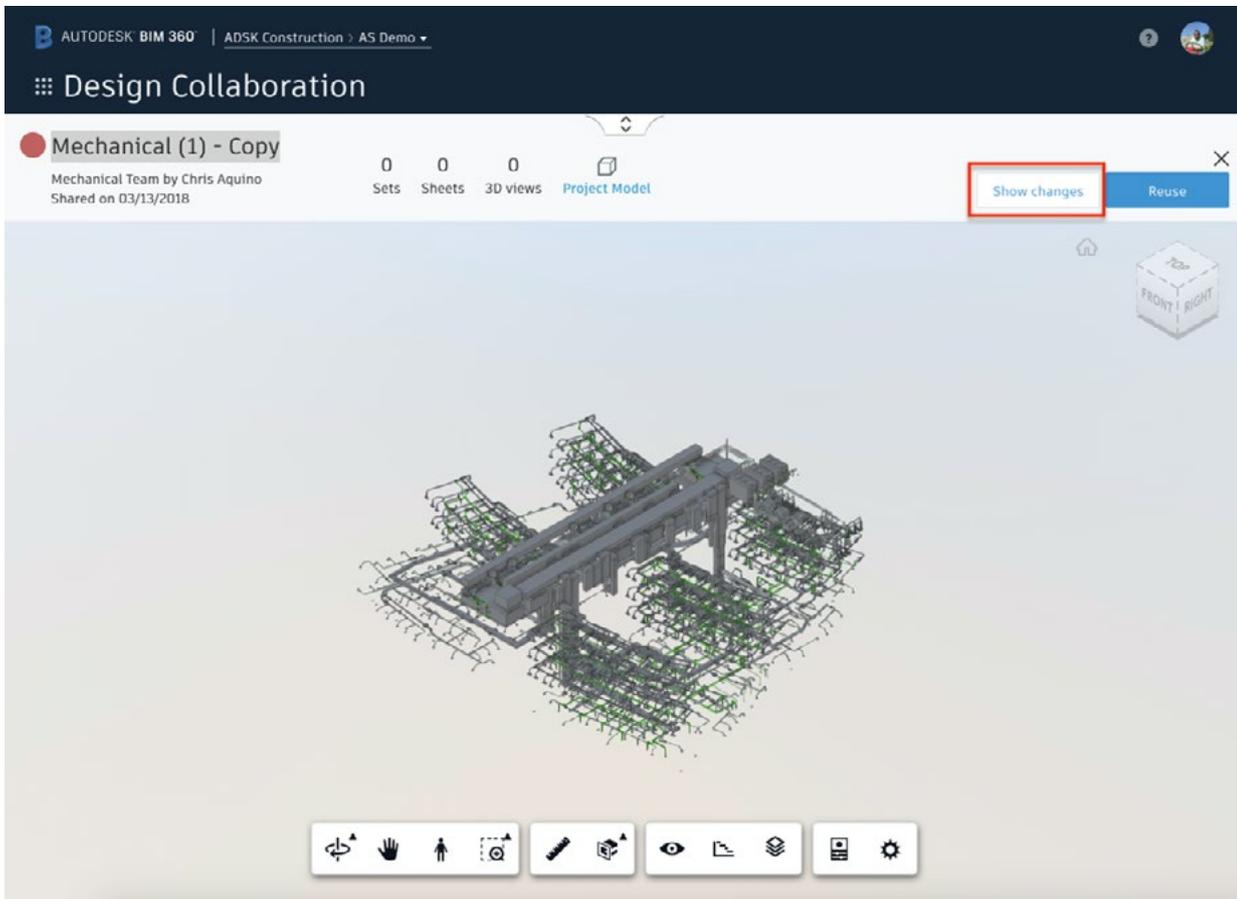
Working in Revit

Initiate Collaboration to your Team (sub)folder in **Project Files**.

> **Note:** While you can see the Plans folder, Revit Cloud Worksharing will not work if you initiate worksharing to that folder.
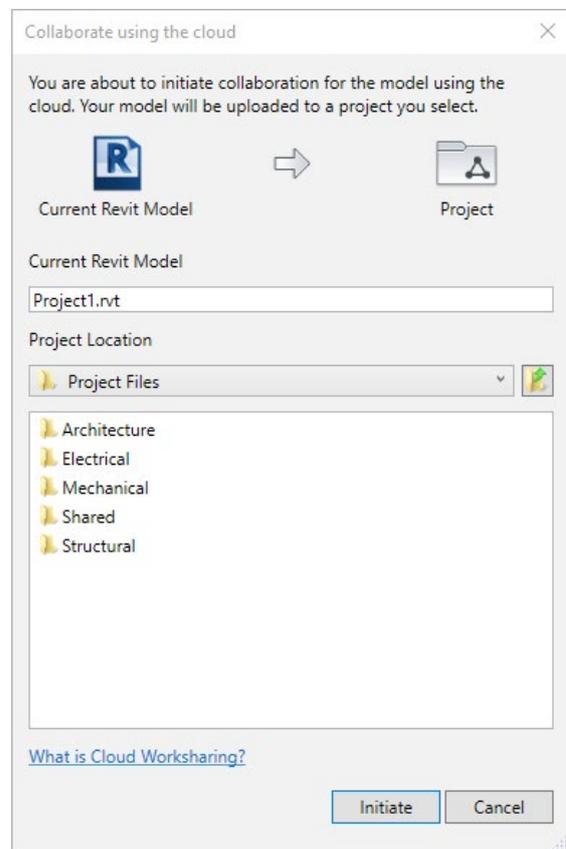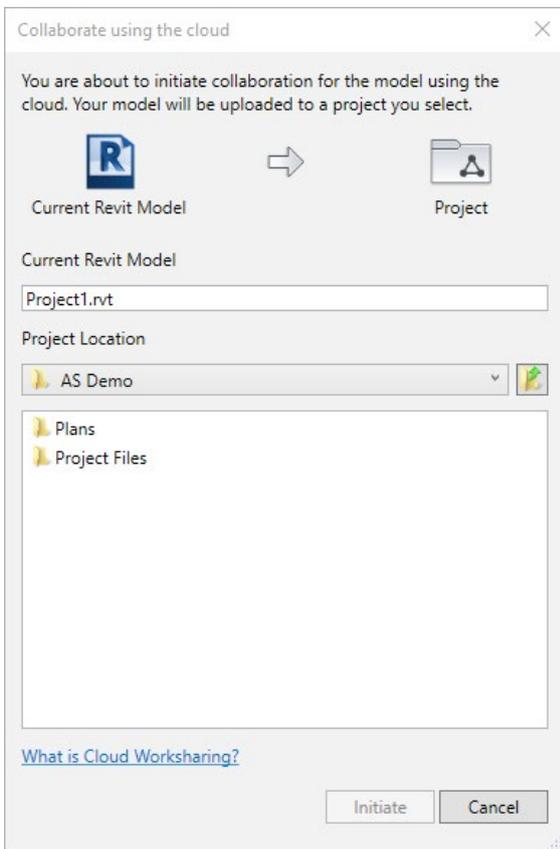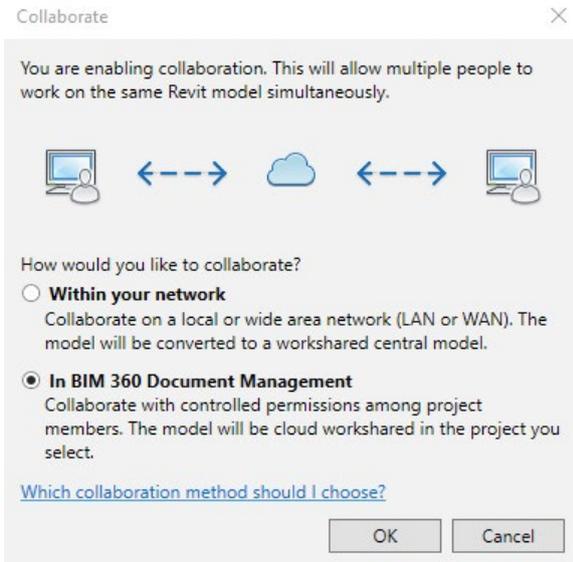
> **Note:** The Design Collaboration module only supports folders under Project Files.

Linking files

There are two ways to link files, **Direct Linking** and **Indirect Linking**.
Direct Linking displays the working, linked model as it is updated in real time by the consultant.

To directly link a file:

- Insert > Manage Links > Project Files > Team Folder > Filename.rvt.
  Note: that the link will be reloaded on file open or explicit reload in Manage Links.

There are two ways to indirectly link files.

- Use the **Shared folder** to allow the **author** to update the linked file in the host.

- Use the **Consumed Folder** to allow the **consumer** of the link to determine when the link is updated by consuming a package shared by the author.

Using the Shared folder, the author of the linked model makes a copy of the model through BIM 360 Document Management to the Shared folder where other teams have View (or greater) permissions.

To link a model from the Shared Folder:

- The Host file uses *Insert > Manage Links > Project Files > Shared > Filename.rvt* as the linked file location, and the link will be reloaded on host file open or explicit reload in Manage Links.

To link a model from the Consumed Folder:

1. he consumer consumes the package which updates the model in **Project files > Team folder > Consumed > Author Team folder > Filename.rvt.**

2. The Host uses **Project files > Team folder > Consumed > Author Team folder > Filename. rvt** as the linked file location, and the link will be reloaded on host file open or explicit reload in Manage Links.

Managing Cloud Models

For 2019, you cannot delete or rename a model using the **Manage Cloud Models** tool.
To delete or rename a model, you can do this in .
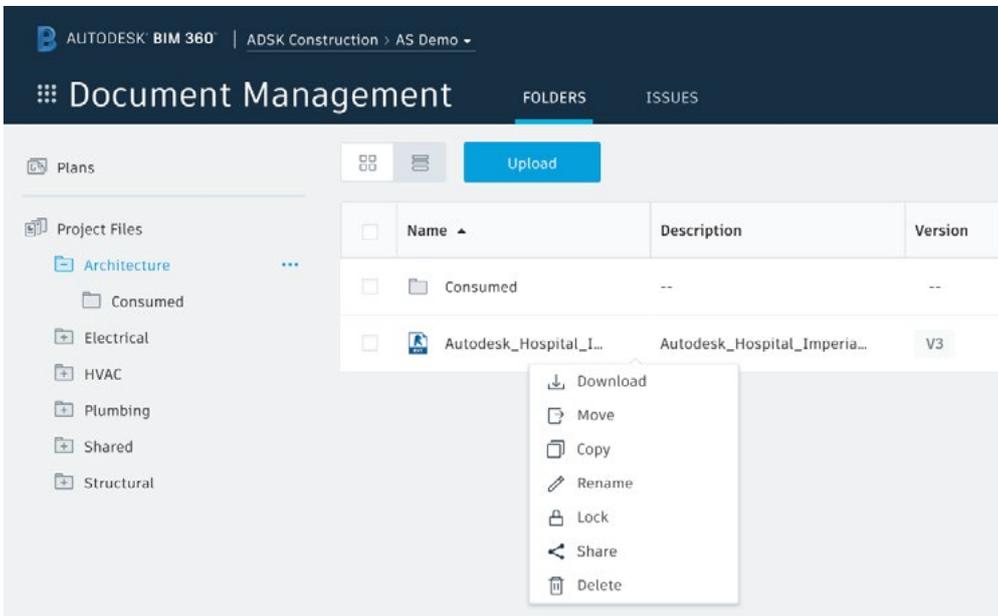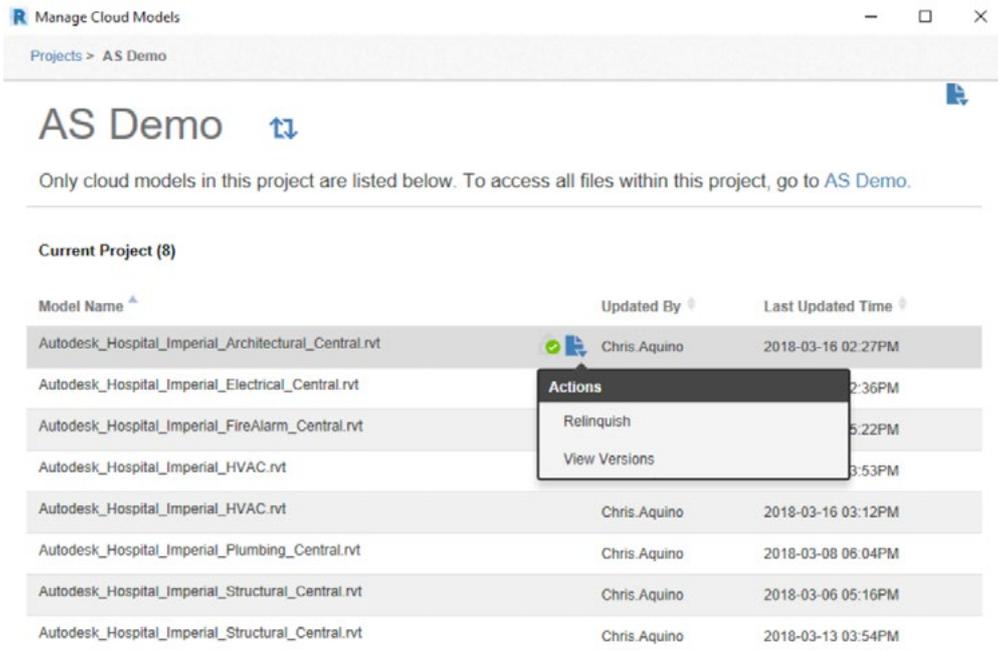
CADPRO Systems Consulting Team

Gary Page

Gary Fohl

Elrina Mills

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CADPRO productivity tools for Autodesk Revit & Civil 3D
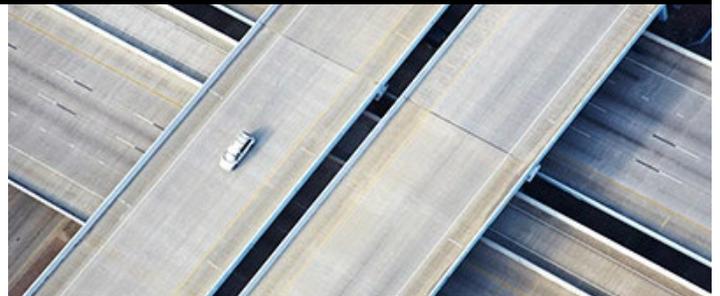
CPS REVIT TOOLS

CPS CIVIL 3D TOOLS

CADPRO Systems (CPS) Revit Tools are a series of add-in utilities for Autodesk Revit. The tools extend the capabilities of Revit in various key areas. They are easy to use and make working in Revit easier and more efficient.

While working on a wide variety of projects and focusing on the Autodesk Revit product strategy, these CPS Revit Tools are developed to deliver a full range of added benefits:

- Providing the ability to quickly and easily explore various design possibilities.

- Tools that offer immediate productivity for the end user thus saving you production costs.

* Increased project productivity through an improved workflow process.

- Creation of perfect projects in less time.

CADPRO Systems Civil 3D Tools are a set of essential AutoCAD Civil 3D plug-ins that will make your work in Civil 3D fast, easy and efficient.

These tools will dramatically reduce the amount of tedious tasks and help you focus on engineering challenges.

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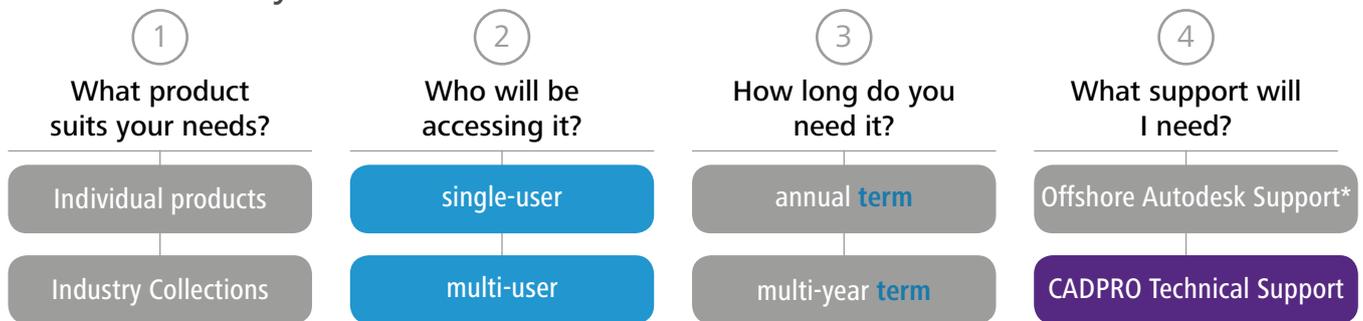
Our solutions provide you access to the most innovative design, simulation and data management tools from world-class vendors. With a broad portfolio of software applications available, you are able to accelerate design of your projects, decrease product development cycles and collaborate more efficiently with your counterparts. All while delivering better outcomes for your clients, improving quality of design and products, and reducing costs.

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By subscribing to Autodesk® products and adding CADPRO Technical Support you get full software maintenance and the best support available in New Zealand. Our technical support team provides you rapid access to experienced and highly skilled Autodesk® certified support staff. We are widely recognised as providing the best, most professional after-sales support. CADPRO Systems provides support via telephone, email and web based remote desktop software, this enables remote interrogation and troubleshooting of your software, ensuring a speedy resolution of the most difficult or advanced problems or questions. On-site support is available at an additional charge.

The decisions you need to think about...

1	2	3	4
What product suits your needs?	**Who will be accessing it?**	**How long do you need it?**	**What support will I need?**
Individual products	single-user	annual **term**	Offshore Autodesk Support*
Industry Collections	multi-user	multi-year **term**	CADPRO Technical Support

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If you subscribe or hold a perpetual license with a current maintenance plan of Autodesk® design software, you can enjoy the following benefits:

• Latest Versions and Enhancements
• Offshore Autodesk Support*
• Up to 3 previous versions
• Global Roaming Rights
• Cloud Benefits
• Administrative Tools

+

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• Unlimited** Support provided by CADPRO's New Zealand based Autodesk® Certified Product Specialists

• This Priority support offering is subject to reasonable use and is provided via phone, email or remote desktop by CADPRO's New Zealand based Autodesk Certified Product Specialists.

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Training Sales & Coordinator	- Patricia Monteiro - patricia.m@cadpro.co.nz
Subscription Manager	- Sarah Holland - sarah.h@cadpro.co.nz
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Accounts	- Caroline Northin - caroline.n@cadpro.co.nz

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