



CS21098-R

Improving Review-Cycle Workflows with BIM 360 Docs

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Learning Objectives

- Learn how to manage permissions for roles and companies as it applies to your procedures
- Learn how to hand off design documents for construction effectively
- Learn how to track review markups and issues to resolution
- Learn how to update document versions and compare files efficiently

Description

Review cycles are a critical component in delivery, execution, and quality control of construction projects. This roundtable brings professionals facing document management challenges together to discuss how BIM 360 Docs can help manage industry workflows, alleviating project teams from tedious traditional review methods. We will look at each step of the cycle from various lenses, evaluating high level project setup and administration, interdisciplinary communications, and maneuvering through construction document plan sets. Using tools designed with construction industry workflows in mind and taking advantage of functionality available can drastically improve your team's review-cycle process. See how these key components can simplify and accelerate your construction project. This session features BIM 360 Docs and Revit.

Your AU Expert

Jessica Denman is a Premium Support Specialist at Autodesk, Inc in the AEC/ENI space. She has been at Autodesk for 2 years assisting Enterprise Priority customers to capitalize on Autodesk solutions effectively and efficiently. Jessica graduated from Vanderbilt University with a Civil Engineering degree and began her career in engineering design and construction support for a large multidiscipline consulting firm. With the Enterprise Priority Support team at Autodesk, she frequently draws on her engineering background while working directly with customers in the infrastructure, building, and construction industries.



BIM 360 Docs Features Geared for the Review-Cycle

BIM 360 Docs is a cloud-based document management solution designed specifically for the construction industry. When operating at a low margin in a fast paced environment, making a change in process can feel unrealistic at times. However, shifting to a cloud solution isn't a farfetched idea when industry workflows are preserved and connected data streamlines communication. A look at review cycles in BIM 360 Docs exemplifies this concept. There are key features you can leverage to make the shift and start increasing efficiency when it counts.

Access & Permissions – Kicking Off with the Review Cycle in Mind

The foundation of document management is security and control. With the frequent exchange of files in the review process, security is of the utmost importance. BIM 360 Docs offers flexibility for administrators to set access and permissions to best suit their project needs. However, with flexibility comes opportunities for complexity. Thinking about folder structure and permission settings at project setup from a high level based on review workflows will keep your project clean. Applying granular settings as the project progresses will support the complexity necessary for your project requirements.

Account Administration:

- Through BIM 360 Enterprise (HQ), Account Admins have the ability to:
 - Create projects, activate services, archive projects
 - Manage internal and external users
 - Assign additional Account Admins and Project Admins
 - View company portfolio of project data
- Consider who should have this access to optimize efficiency and security
 - Account Admins don't receive access to projects by default
 - Internal Project Admins with Account Admin access can eliminate bottlenecks
 - For security, external Project Admins likely won't be Account Admins
 - There are no permission settings within HQ, only full access

Manage Projects

Manage Users & Companies

Manage Account Admins

Manage Project Admins

Best Practice: Assign 2, minimum

BIM 360 ENTERPRISE (HQ): ACCOUNT ADMINISTRATION



Assigning Project Admins:

- In the Docs Project Administration area, those with access have the ability to:
 - View, manage, invite project Team Members
 - Assign roles for Team Members
 - View the Activity Log for the project
 - Enable Mobile Device Management (MDM) for the project
- Consider who should have this access to optimize efficiency and security
 - Establish multiple Project Admins to avoid a single point of failure
 - Consider key contacts at external Project Admins to manage Team Members
 - For tighter security, leverage folder Permissions

Autodesk BIM 360 DOCS - General Hospital

Invite Team Members

Access Project Administration space

View Activity Log & enable MDM

Manage Company & Role assignments for permission criteria

Name	Email	Company	Roles	Access	Last Login	Status
Andrew Mayo-Smith	andrew.mayosmith@autodesk.com	Autodesk - Premium Support	Contractor	Team member	Aug 31, 2016 12:07 PM	Pending
Bill Ding	bding.ibeam@gmail.com	iBeam	Engineer	Team member	Oct 18, 2016 2:23 PM	Active
Carmen Sandiego	csan.gadget@gmail.com	Go Gadget Inc.	Inspector	Team member	Oct 25, 2016 7:58 AM	Active
Frederick Regala	frederick.regala@autodesk.com	Autodesk - Premium Support	Contractor	Team member	Nov 1, 2016 9:18 AM	Active
Jessica Denman	jessica.denman@autodesk.com	Autodesk - Premium Support	Project Manager, Construction Man.	Project admin	Nov 1, 2016 10:11 AM	Active
John General	mr.j.general@gmail.com	General Hospital	Owner	Team member	Apr 27, 2016 10:44 AM	Active
Lynn Ward	lynn.jess.ward@gmail.com	Autodesk - Premium Support	Document Manager	Project admin	Apr 12, 2016 9:13 AM	Pending
Mike Douglas	mike.treecolumn@gmail.com	Tree Column Design	Architect	Team member	Apr 29, 2016 3:34 PM	Active
Penny Loafer	penny.treecolumn@gmail.com	Tree Column Design	Designer, Architect	Team member	Oct 25, 2016 8:00 AM	Active

BIM 360 DOCS: PROJECT ADMINISTRATION

Permission Levels:

- Cascading folder permissions allow for simple administrative structure and opportunities for granular settings where required
- Set permissions by Role, then Company, then Individual to take advantage of folder structure and review cycle workflow based permissions
- Permission levels will govern what individuals can see and do in each folder
 - **Publish + View + Edit + Control**
 - Project Admins inherit this permission at the highest folder level
 - Setting Control permissions means full editing abilities for documents and folder administration access for that folder and all sub-folders
 - In the Plans folders, Control permissions allow for title block management
 - Control permissions are an excellent option to allow subs to manage folder permissions without having access to the Project Admin space
 - **Publish + View + Edit**
 - Edit permissions allow for full document privileges: upload, download, move, copy, delete, promoting versions, markups, issues, and attachments to any document with a minimum of View permissions
 - This is the most common permission level for Team Members in their working folders



○ Publish + View

- View permissions allow for upload, download, markups, issues, and attachments
- This permission setting is excellent for interdisciplinary reviews, allowing for access to view, markup, and share issues with other disciplines but without being able to alter document history

○ Publish

- Publish permissions are most stringent, with the ability to publish documents but not see anything uploaded to the folder
- This setting is best utilized for Project Admins who require a private submittals folder for subs to upload to

AUTODESK BIM 360 DOCS General Hospital

Quick Tour

Folder Settings

Permissions

Enter roles, companies, individual names or emails

Permission Level: Publish

When multiple permission levels apply, the highest level of access is granted

Name	Permission Level	Type	
Jessica Denman	Publish + View + Edit + Control	User	Inherited
Autodesk - Premium Support	Publish + View + Edit	Company	Delete
Owner	Publish + View	Role	Delete
Lynn Ward	Publish + View + Edit + Control	User	Inherited

Minimum Permissions Applied

Best Practice: Apply most basic, minimum permission settings at the top level to take advantage of cascading settings – begin with Role & Company

Project Admins and those with folder Control permissions manage Permission Levels from Folder Settings

Add Access

Increase Permissions

BIM 360 DOCS PERMISSION SETTINGS

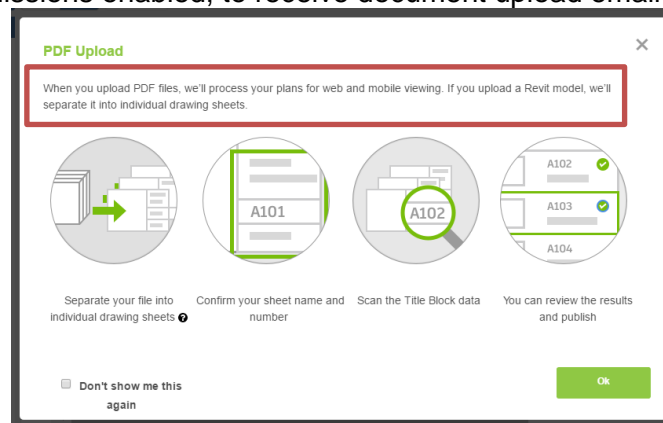


Versioning & Collaboration – Confidence in a Single Source of Truth

Multiple file versions is a byproduct of the review cycle. Issues are discovered, questions are raised, plans change, and drawings get revised, but work doesn't stop. The project keeps moving forward at the rapid pace the schedule demands. Working off the correct set becomes crucial to avoiding rework. Establishing a workflow that relies on the versioning capabilities in BIM 360 Docs can avoid headaches when plans are updated at the eleventh hour and those in the field are assuming they have the latest drawings.

Upload Process:

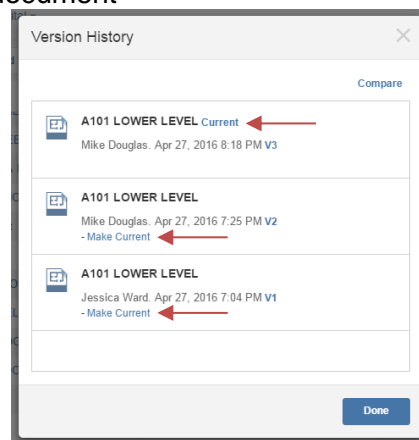
- In Plans folders, uploading an .rvt will automatically extract sheets and the 3D view
- Multipage PDFs publish as a single file in Project Files and as individual sheets in Plans folders, leveraging OCR and title blocks for standardized naming conventions
- When changes are made and documents uploaded, all parties see the most current version and document history, providing a single source of truth for the team
- All members have the ability to subscribe to folders, where they have a minimum of View permissions enabled, to receive document upload email notifications



BIM 360 DOCS UPLOADING FILES

File Versioning:

- File versions are tracked automatically through the upload process
- Version history is available for anyone with View permissions of the document
- The ability to manage the current version is available for anyone with Edit permissions of the document



BIM 360 DOCS FILE VERSIONS

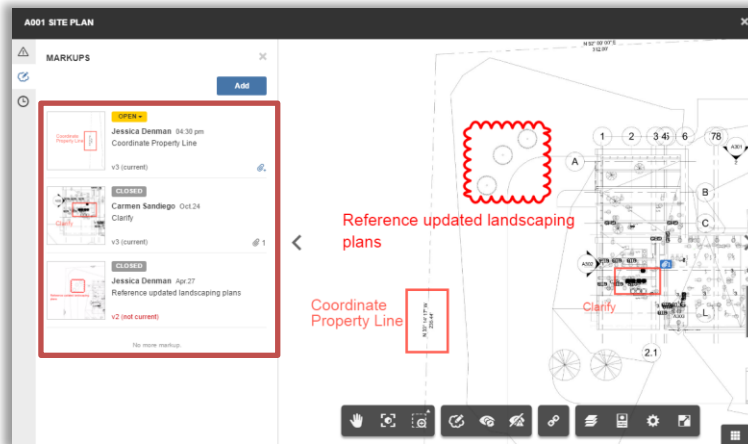


Markups & Issues – Status and Communication Tracked to Resolution

Construction projects are complex with many moving parts. Coordination is a constant battle. The ability to track markups and issues carried over from version to version can both ensure quality control and prevent mistakes. There will be oversights, things will go wrong, and when they do, a more sophisticated document management system will help identify who is responsible.

Markups:

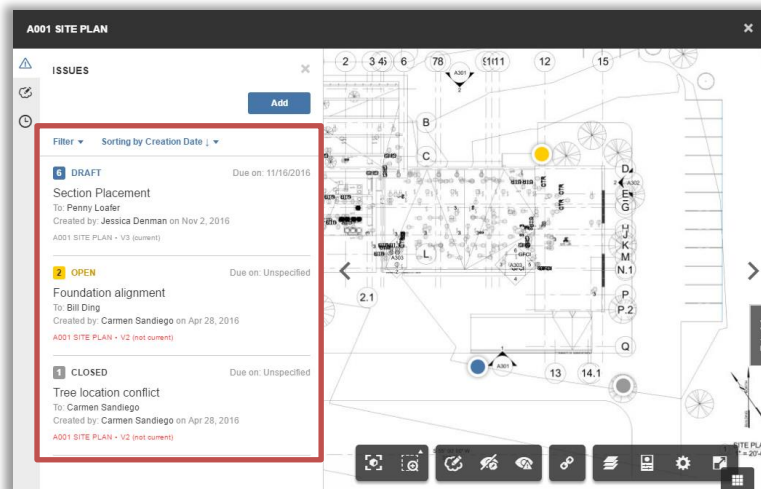
- The ability to add markups to documents in the Plans folder is open to anyone with View permissions of the document
- Markup history is recorded and carried over version to version through closure



BIM 360 Docs MARKUPS

Issues:

- Similarly, the ability to add issues is available to anyone who can view the document
- Issues can be assigned to an individual with an associated due date
- Issue activity is tracked through versions and documented in the history
- Email notifications are delivered automatically for relevant parties
- Issues can be filtered by Status, Assigned To (user/role/company), or Date

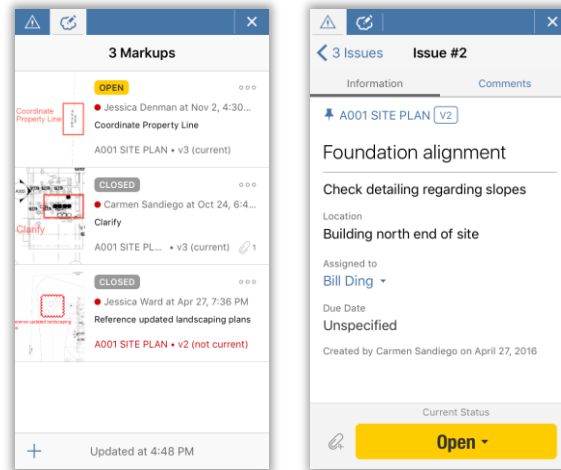


BIM 360 Docs ISSUES



Mobile:

- Some of the most critical markups and issues are noted in the field
- The ability to add, manage, and close issues and markups on tablets and smartphones ensures cloud-based workflows are maintained



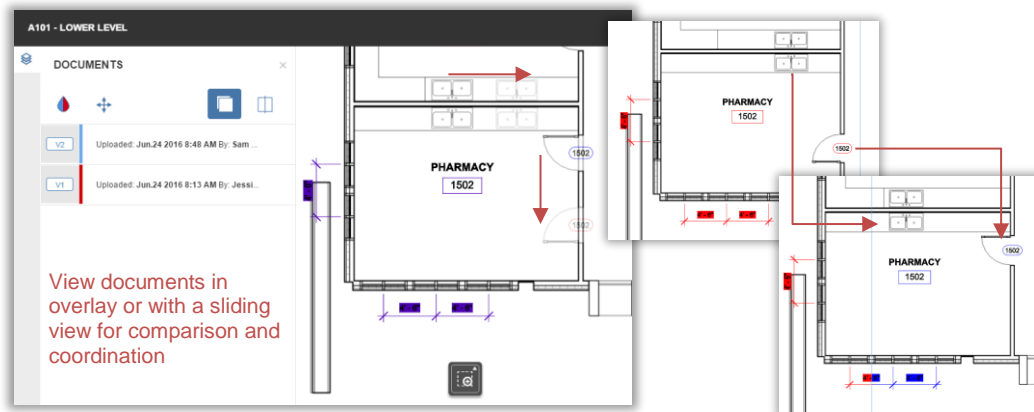
BIM 360 DOCS MOBILE MARKUPS & ISSUES

Comparing, Hyperlinking & Attachments – Making Large Plan Sets Less Daunting

Moving toward digital document management has already done wonders for the construction industry. Plans sets are bulky and pen to paper markups leave room for error. In the field, this evolution makes sense but in the office, PDFs can be equally as cumbersome. Architects and engineers can find themselves missing their light tables and thumbing through sets to locate details. When time is tight, navigating through documents efficiently is a game changer.

Drawing Compare:

- Conduct quality control on versions of the same document
 - Ensure closed markups and issues have been implemented
 - Review modifications over time for a specific design
- Leverage drawing compare for interdisciplinary reviews of design files
 - View discipline sheets in overlay or side by side for coordination markups

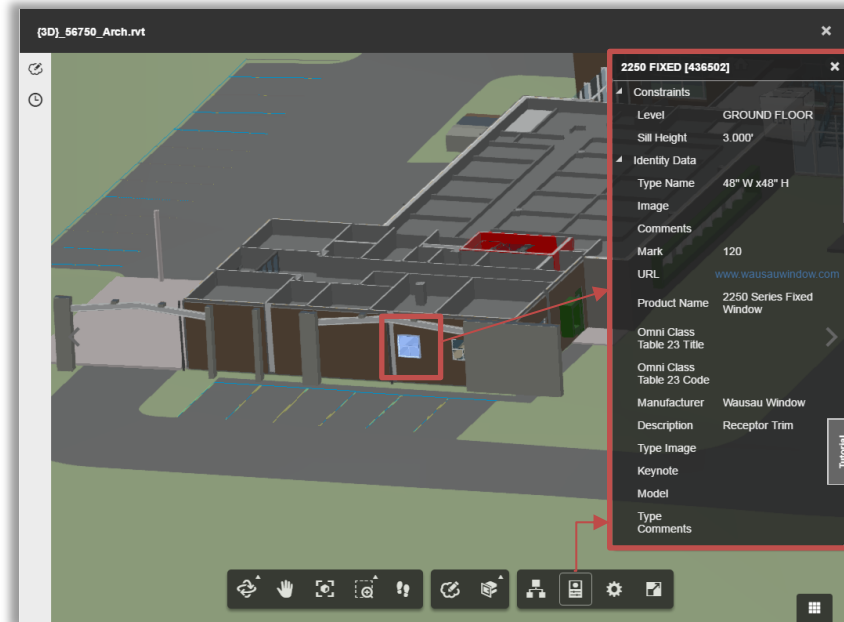


BIM 360 DOCS COMPARE



Model Properties:

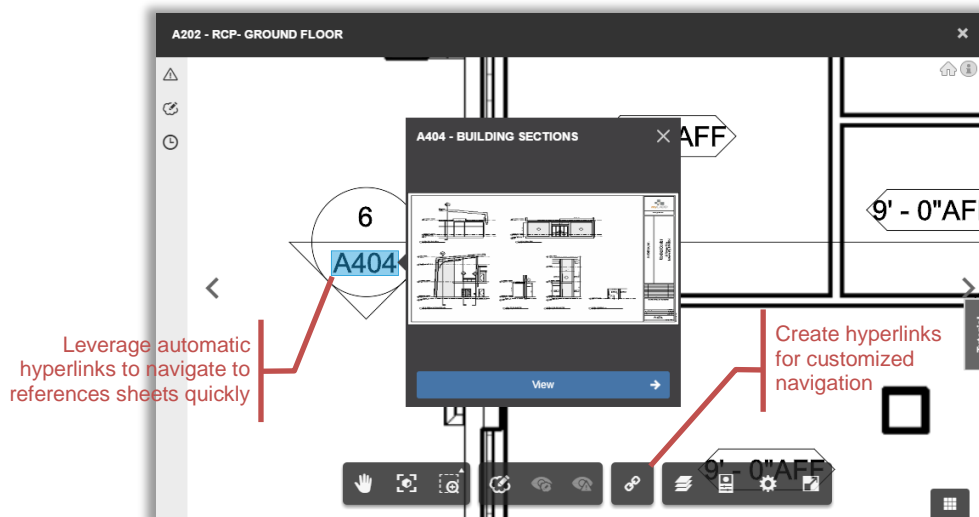
- Leverage BIM's rich, intelligent data from within the document management system
 - Uploaded .rvt files carry a wealth of information that can answer a designer's questions quickly without needing to reference another sheet



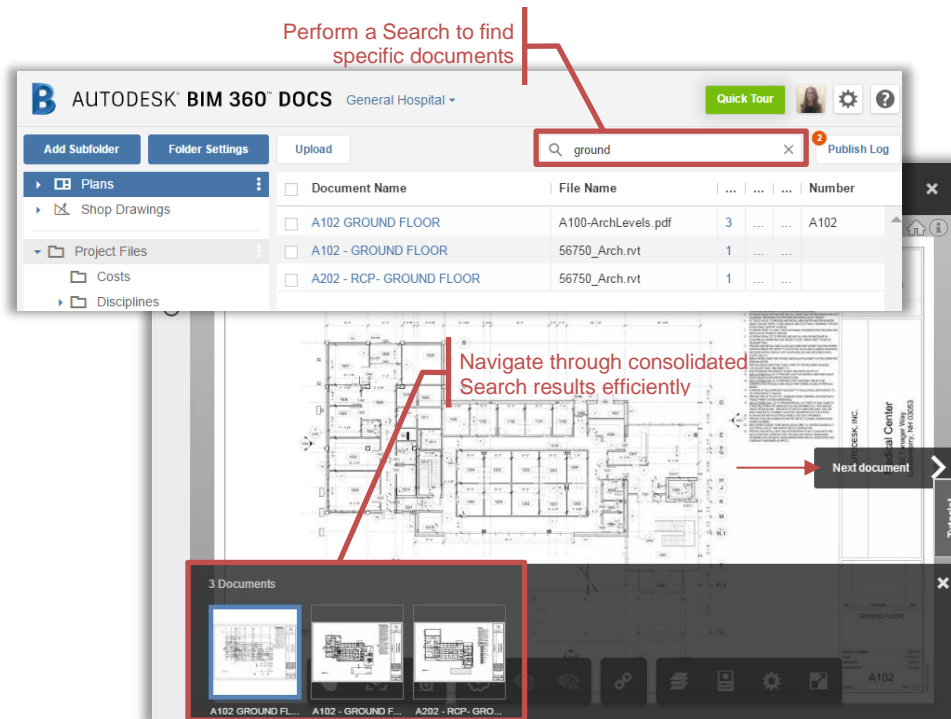
BIM 360 DOCS MODEL PROPERTIES

Hyperlinking & Search:

- Navigate to referenced sheets within section or detail callouts and notes
 - Hyperlinking in PDFs are generated automatically through OCR
- Utilize the search bar to consolidate documents based on parameters
 - Navigate through search results seamlessly



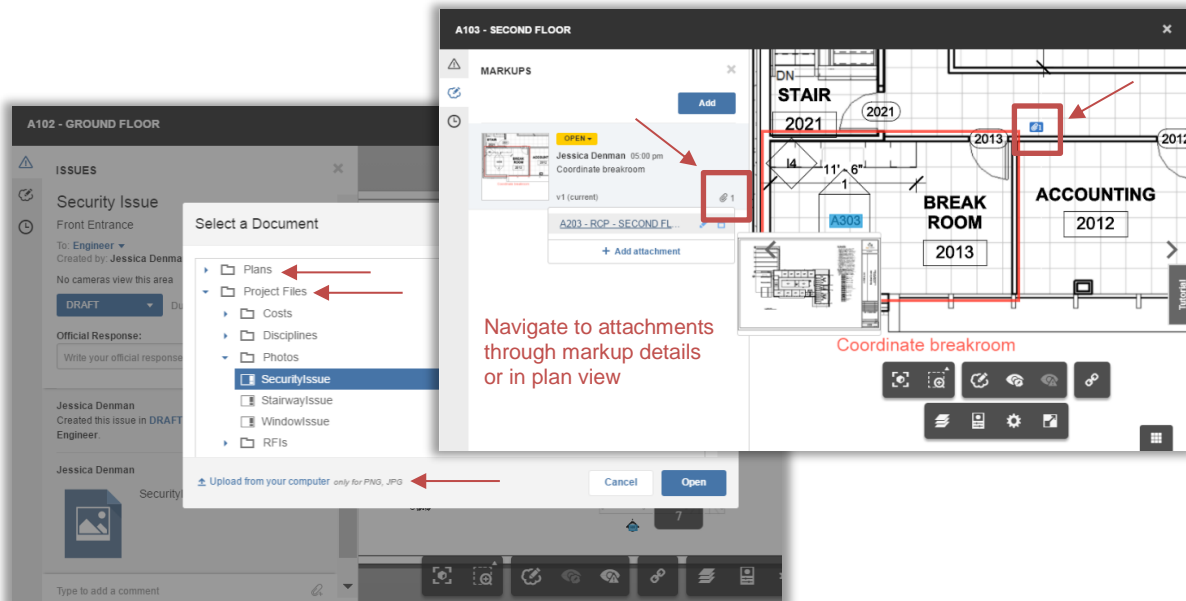
BIM 360 DOCS HYPERLINKING



BIM 360 DOCS SEARCH

Attachments:

- Attachments can include other Plans, documents uploaded to Project Files, or new files uploaded from your computer
- Create Markups or Issues in Plans and attach associated files for quick reference



BIM 360 DOCS ATTACHMENTS