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This Standard Operating Procedure (SOP) provides a detailed, step-by-step guide for setting up a new Architecture, Engineering, and Construction (AECO) project in Autodesk Construction Cloud (ACC) and configuring the Model Coordination service for effective clash detection. This guide is tailored for new users and emphasizes the "Who, Why, and What" of each action.

1. Initial Project Setup in Autodesk Construction Cloud

This section covers the foundational steps to create a new project and add the project team.

Step 1: Create the Project

- **Who:** Project Administrator, typically the BIM Manager, Project Manager, or IT Lead.
- **Why:** To establish the central, secure platform for all project data, team collaboration, and a single source of truth for the project lifecycle.
- **What:**
    1. Navigate to the ACC home page and log in.
    2. Click **Create a project** on the project list page.
    3. Fill in the required project information, including a clear **Project Name** and **Project Type** (e.g., Commercial, Infrastructure, etc.).
    4. Select a suitable **Project Template** if one exists for your organization. This pre-populates the folder structure and permissions. If not, select `Start with a Blank Template`.
    5. Set the **Project Start Date** and **Project End Date**.
    6. Click **Create project**. The project environment will now be created and provisioned.

Step 2: Add Project Members and Assign Roles

- **Who:** Project Administrator.
- **Why:** To provide all team members with access to the project and define their permissions, ensuring everyone has the correct level of access to project information and services.
- **What:**
    1. From the project's home screen, go to the **Project Admin** module (found on the left-hand navigation pane).
    2. Click the **Members** tab.
    3. Click **Add Members** and enter the email addresses of the team members. You can add multiple members at once.
    4. For each member, assign a **Company** (e.g., `AECOM`, `Skanska`) and a **Role** (e.g., `Architect`, `Structural Engineer`, `BIM Manager`). Roles are crucial for setting permissions later.
    5. Grant access to the necessary services by checking the boxes next to services like **Docs** and **Model Coordination**.
    6. Click **Add** to send email invitations to the new members.

2. Setting Up Autodesk Docs and File Structure

Autodesk Docs is the document management hub. A proper file structure is essential for Model Coordination.

Step 1: Create a Standardized Folder Structure

- **Who:** BIM Manager.
- **Why:** A well-organized folder structure ensures files are easy to find and manage, and it is a prerequisite for setting up Model Coordination spaces. It prevents models from being placed haphazardly.
- **What:**
    1. Navigate to the **Docs** module.
    2. In the **Project Files** section, click the **three dots** next to the root folder and select **Add Subfolder**.
    3. Create a logical hierarchy, such as:
        - `01_Design`
            - `Architectural`
            - `Structural`
            - `MEP`
        - `02_Coordination`
            - `Coordination Space A`
            - `Coordination Space B`
        - `03_Shared`
        - `04_Published`
    4. The `02_Coordination` folder will be used as the source for our Model Coordination spaces.

Step 2: Set Folder Permissions

- **Who:** BIM Manager.
- **Why:** To protect the integrity of project data and ensure only authorized personnel can upload, edit, or delete files.
- **What:**
    1. Click the **three dots** next to each folder in **Docs** and select **Permissions**.
    2. Add members, roles, or companies to define who can access the folder.
    3. Set the permission level (e.g., `View only`, `Create`, `Edit`).
    4. For the `02_Coordination` folder, give the BIM Manager and Design Leads `Edit` access, while other team members might only need `View only`.

3. Configuring and Using Model Coordination

This section details how to enable the service and begin clash detection.

Step 1: Activate Model Coordination

- **Who:** Project Administrator.
- **Why:** To enable the powerful automated clash detection and issue tracking features of the service.

- **What:**
    1. In the **Project Admin** module, go to the **Services** tab.
    2. Ensure that **Model Coordination** is listed and activated. If not, click **Activate**.

Step 2: Create Coordination Spaces

- **Who:** BIM Manager.
- **Why:** To define specific sets of models to be automatically checked for clashes against each other. Each coordination space is an independent clash detection engine.
- **What:**
    1. In the **Project Admin** module, click on the **Model Coordination** service.
    2. Go to the **Coordination spaces** tab.
    3. Click **Create**.
    4. Give the space a clear name (e.g., `Structural_MEP_Coordination` or `Architectural_Coordination`).
    5. Select the corresponding folder from Autodesk Docs that contains the models to be coordinated (e.g., select the `Coordination Space A` folder created earlier).
    6. Click **Create**. The system will now automatically process any new models uploaded to this folder for clashes.

Step 3: Upload and Review Models for Clashes

- **Who:** Design Leads (e.g., Architect, Structural Engineer).
- **Why:** To make the latest design models available for automated clash detection and to begin the coordination process.
- **What:**
    1. Upload the latest discipline models (e.g., RVT, NWC files) to the folder you assigned to your coordination space in Autodesk Docs.
    2. The models will be automatically processed.
    3. Navigate to the **Model Coordination** module.
    4. Select the coordination space you want to review.
    5. Go to the **Clashes** tab, where you can see all detected clashes. Use the filter to check clashes between specific models (e.g., `Architectural` vs. `Structural`).

Step 4: Create and Track Issues from Clashes

- **Who:** BIM Manager, Design Leads.
- **Why:** To formally document a clash, assign it to the responsible party for resolution, and create a trackable record of the coordination process.
- **What:**
    1. In the **Clashes** tab, click on a clash to view it in detail.
    2. Click **Create Issue**.
    3. Fill out the issue details:
        - **Title:** A brief, clear description (e.g., `Structural beam clashes with HVAC duct`).
        - **Assignee:** The person responsible for resolving the clash.

- **Due Date:** The deadline for a solution.
- **Root Cause:** The reason for the clash.

4. Click **Create**. The issue is now visible in the **Issues** tab for the entire project and will be tracked until its resolution.

By following this SOP, project teams can quickly and effectively set up their projects in ACC and leverage the Model Coordination service to streamline the design coordination and clash detection process.