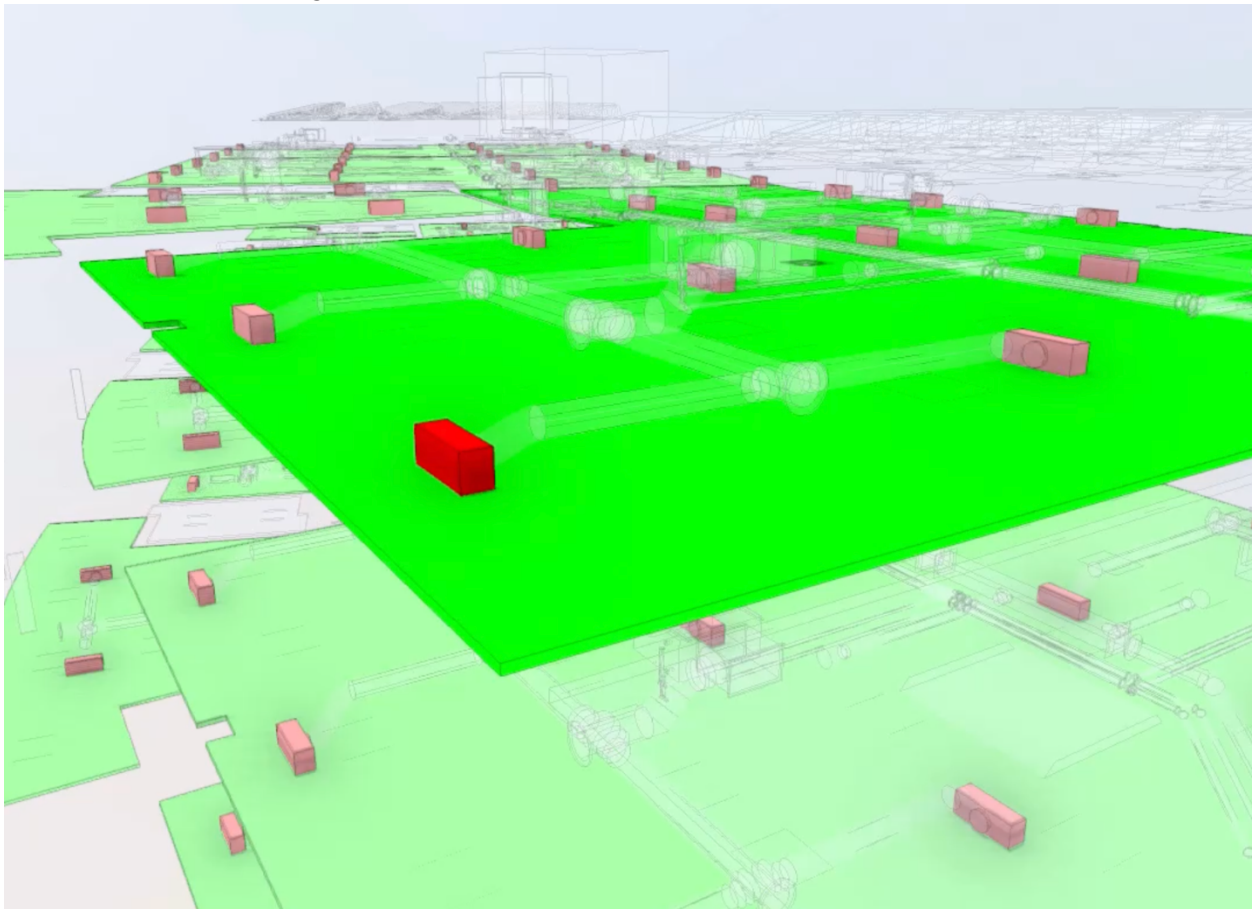


Project challenge exercise – grading rubric**Coordinate and quantify models in Forma for Construction**

Use your skills in model coordination, clash detection tracking, and takeoffs in Forma Takeoff in this project challenge.

Scenario:

As the BIM coordinator on a construction project, you'll begin this project by uploading the four provided Revit files (***ADSK-ARC-XX-ZZ-C2-A-4000.rvt***; ***ADSK-LAN-XX-ZZ-C2-L-0001.rvt***; ***ADSK-MEP-XX-ZZ-C2-ME-4000.rvt***; ***ADSK-STR-XX-ZZ-C2-S-4000.rvt***) to Forma Data Management, ensuring proper file structure and collaboration settings. In the Model Browser, apply filters to isolate ductwork, structural framing, and ceilings, then save the view for clash detection. Create an object exclusion to remove duct insulation from the clash analysis. Perform clash detection, classifying issues as requiring resolution or not. Finally, use Forma Takeoff to calculate the number of air terminals, the total length of ductwork, and the weight of steel columns.



Complete the required activities:

- Upload the provided models to Forma Data Management, maintaining all necessary file structures and permissions for collaboration.
- Use filters in the Model Browser to isolate key elements. In the Model Browser, apply filters to display only ductwork in the MEP model, structural framing in the structural model, and ceilings in the architectural model. Once isolated, save this customized view so it can be used in the clash detection process.
- Create an object exclusion to exclude duct insulation for clash detection.
- Perform clash detection and classify clashes. Using the saved view in the clash detection tool, identify clashes involving ductwork. Review and classify each clash as either an issue that requires resolution or not an issue. Document that for reporting and resolution tracking.
- Using filters in the model browser, isolate ductwork in the MEP model, structural framing the structural model, and ceilings in the architectural model. Save the view.
- Using Forma Takeoff, calculate:
 - the number of air terminals
 - the length of ductwork
 - the weight of steel column

Success Criteria:

- **Accurate model organization and upload:** All provided Revit models are successfully uploaded to Forma Data Management with the correct file structure and permissions, ensuring accessibility for collaboration.
- **Effective model filtering and clash detection:** The Model Browser is used correctly to isolate ductwork, structural framing, and ceilings, with saved views applied to clash detection. Clashes involving ductwork are properly classified as either an issue or not an issue, demonstrating a clear understanding of coordination workflows.
- **Correct object exclusion for clash detection:** Duct insulation is successfully excluded from the clash detection process, ensuring more accurate and relevant clash identification.
- **Accurate quantity takeoff calculations:** Using Forma Takeoff, the student correctly determines the number of air terminals, length of ductwork, and weight of steel columns, demonstrating proficiency in model-based quantity estimation.

What to Submit:

- **Proof of model upload (Screenshot or link):** A screenshot or a shared link confirming that the provided Revit models were successfully uploaded to Forma Data Management with the correct file structure.
- **Clash detection report (PDF or screenshot):** A report or screenshot from the clash detection tool showing identified clashes, with classifications distinguishing issues from non-issues.
- **Quantity takeoff summary (PDF or spreadsheet):** A report from Forma Takeoff showing calculations for the number of air terminals, length of ductwork, and weight of steel columns with supporting data.

Grading Rubric

	Advanced	Proficient	Basic	Emerging
Model upload to Forma Data Management	All provided models are successfully uploaded with proper file structure and permissions, ensuring full accessibility.	Models are uploaded, but minor issues exist with file organization or permissions.	Models are uploaded, but with significant file structure or permission issues.	Models are not uploaded or cannot be accessed properly.
Filtered model views	Saved views correctly isolate ductwork, structural framing, and ceilings, and are well-organized for clash detection.	Views isolate the correct elements but may have minor inconsistencies.	Views are partially correct but include unnecessary elements or omit required components.	Views are incorrect or missing.
Object exclusion for clash detection	Duct insulation is properly excluded, ensuring accurate clash detection results.	Duct insulation is excluded, but some unnecessary elements remain.	Attempt to exclude insulation was made, but it is incomplete or incorrect.	No object exclusions were made, leading to inaccurate clash detection.
Clash detection and classification	Clashes are correctly identified and accurately classified as issues or non-issues with clear documentation.	Clashes are identified and classified, but with minor errors in documentation.	Clashes are partially classified or documented with some inaccuracies.	Clashes are not correctly identified or classified, or documentation is missing.
Quantity takeoff accuracy	The number of air terminals, ductwork length, and steel column weight are correctly calculated with supporting documentation.	Calculations are mostly correct, with minor errors or missing details.	Calculations are attempted but contain significant errors or missing values.	Takeoff data is missing or largely incorrect.

