ROOTS BIM LLC: PROJECT CASE STUDY

Dublin Data Center - A Revit Migration Challenge

OVERVIEW:

The Data Center project, located in South Dublin, presented a significant challenge: translating a vast set of AutoCAD details into Revit LOD 400 models within a tight deadline. This migration was crucial for ensuring consistency, accuracy, and efficient management of the data center's complex infrastructure.

- **BIM Start Date:** 06-Jun-2024
- **BIM End Date:** 01-Jul-2024

KEY CHALLENGES AND SOLUTION:

1. Tight Deadlines: Meeting the deadline requires effective time management, often necessitating long hours and careful scheduling.

- **Solution:**
- **Developed a clear plan** for how to develop AutoCAD details into Revit, including which Revit tools and features will be used.
- **Implemented a rigorous project** schedule with clear milestones and deadlines.
- **Utilized agile methodologies** to adapt to changing requirements and prioritize tasks.
- **Employed time-tracking tools** to monitor progress and identify potential bottlenecks.

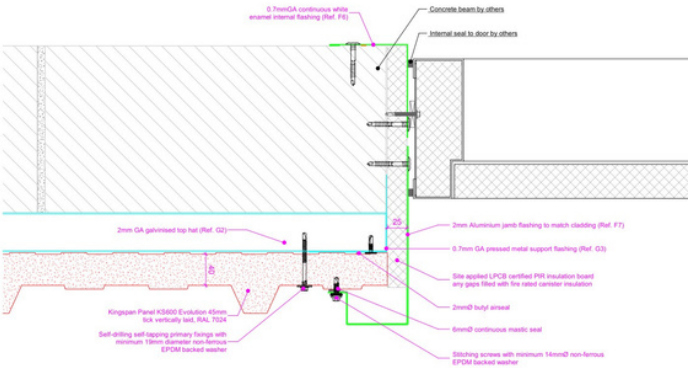
PURPOSE OF CONSTRUCTION:

The primary purpose of this data center is to create a centralized facility designed for the secure and efficient management of critical IT infrastructure and data. This will provide a robust environment for storing and processing large volumes of data, supporting high-performance computing needs, and ensuring reliable access to information. They are equipped with advanced security measures, redundant power and cooling systems, and scalable infrastructure to meet the growing demands of businesses and organizations.

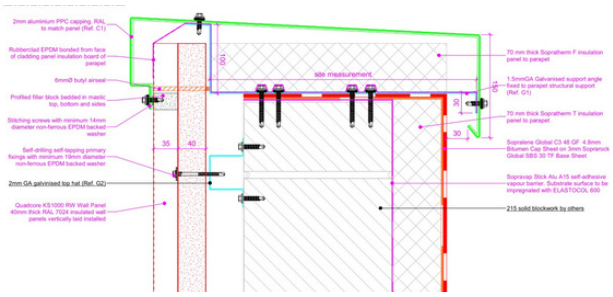
BASIC SCOPE OF WORK:

Roof GA & Detail drawing creation for Exterior wall, Roof.

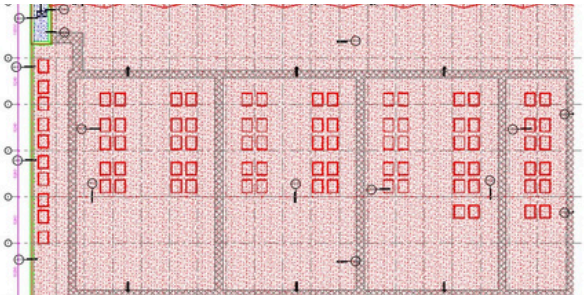
TYPICAL DOOR JAMB DETAILS



TYPICAL PARAPET DETAILS



ROOF PLAN



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KEY CHALLENGES AND SOLUTION:

2. Workload Distribution: Balancing the workload across the team to ensure that all sheets are completed on time

- **Solution:**
- **Using Revit Families:** Used standard Revit families to ensure consistency and avoid discrepancies with AutoCAD symbols or blocks.
- **Divided the Workload among Team** members based on their skills and expertise.
- **Established Clear Communication channels** to ensure collaboration and coordination.
- **Implemented Regular Progress Reviews** to identify and address any imbalances.

3. Consistency and Accuracy: Ensuring that all 140 sheets are consistent in style, format, and accuracy can be difficult, especially under time constraints.

- **Solution:**
- **Match Styles and Standards**: Adjusted line styles, text styles, and dimension styles in Revit to match those used in the AutoCAD drawings.
- **Developed Standardized Revit Templates** with predefined styles, families, and settings.
- **Used Parametric Modeling** to create flexible and adaptable components.
- **Conducted Regular Quality Checks** to verify the accuracy of the Revit models.

KEY CHALLENGES AND SOLUTION:

4. Detailing: Maintaining a high level of detail across all sheets within a tight timeframe can be difficult, and there is a risk of overlooking important details.

- **Solution:**
- **Cross-Check Details:** Regularly compared Revit details with the original AutoCAD drawings to ensure accuracy and consistency.
- **Utilized Revit's Annotation Tools** to create detailed and informative drawings.
- **Leveraged Section and Elevation Views** to visualize the project's three-dimensional geometry.
- **Established a Naming Convention for Revit** elements to maintain consistency.

5. Feedback Incorporation: Incorporating feedback from clients or stakeholders efficiently, especially if revisions were needed frequently for total set of the drawings.

- **Solution:**
- **Reviewed with Team:** Conducted reviews with team members or stakeholders to verify that the Revit details meet the required standards and specifications.
- **Incorporated Feedback:** Implemented any feedback or revisions promptly and updated the Revit details accordingly.
- **Version Control:** Kept track of revisions and update to ensure that all changes were properly documented and managed.
- **Optimize Views:** Set up view filters and detail levels to ensure efficient Revit model performance while displaying accurate details.

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TECHNICAL CONSIDERATIONS:

REVIT 2022 AND AUTOCAD INTEGRATION:

- UTILIZED DATA EXCHANGE FORMATS (E.G., IFC, DWG) TO TRANSFER DATA BETWEEN THE TWO SOFTWARE.
- CUSTOM SCRIPTS OR PLUGINS AUTOMATED CERTAIN TASKS, SUCH AS CONVERTING AUTOCAD BLOCKS TO REVIT FAMILIES.

LOD 400 REQUIREMENTS:

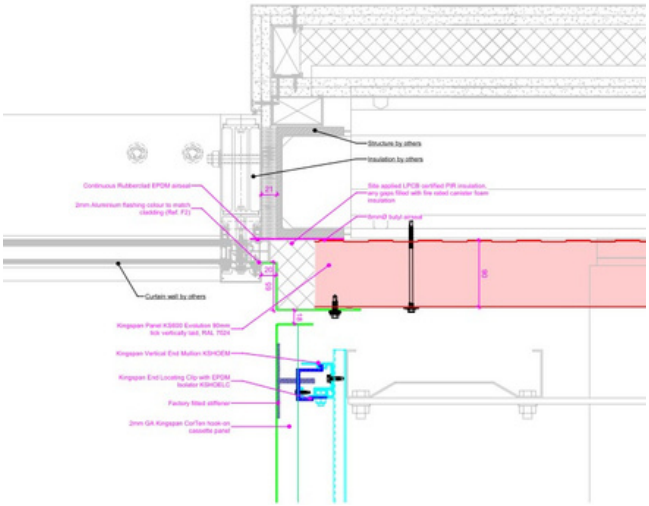
- ENSURED THAT THE REVIT MODELS MET THE SPECIFIED LEVEL OF DETAIL FOR CONSTRUCTION DOCUMENTATION AND COORDINATION.
- INCORPORATED NECESSARY INFORMATION SUCH AS DIMENSIONS, MATERIALS, AND FINISHES.

BY ADDRESSING THESE CHALLENGES AND LEVERAGING THE POWER OF REVIT, THE DATA CENTER PROJECT SUCCESSFULLY MIGRATED ITS AUTOCAD DETAILS INTO ACCURATE AND DETAILED REVIT MODELS, PROVIDING A SOLID FOUNDATION FOR FUTURE PROJECT STAGES.

KEY CHALLENGES AND SOLUTION:

- **Cross-Check Details:** Regularly compared Revit details with the original AutoCAD drawings to ensure accuracy and consistency.
- **Implemented a Centralized Feedback Management System.**
- **Prioritized Feedback** based on its impact on the project's overall goals.
- **Communicated Changes** effectively to ensure that all team members are informed.

GLAZING JAMB AND DRI DESIGN JOINT DETAIL:



CONTACT US:

+1 440 836 3376

info@rootsbim.com

126 Harvey Avenue, Grayslake, IL 60030, USA

www.linkedin.com/company/rootsbim