

CUELLARSTONE-STG LASER SCANNING PROCESS

Stone Fabrication Workflow Based on As-Built Conditions Using 3D Laser Scanning

We provide a comprehensive service to ensure that all stone elements are fabricated to fit the actual built conditions on site. This minimizes installation issues and guarantees a precise, seamless fit with the structural base. Below is an overview of the complete workflow we follow:

1. On-Site Laser Scanning

Our process begins with a site visit, where we use a **FARO 3D laser scanner** to capture existing conditions with millimetre precision. This includes:

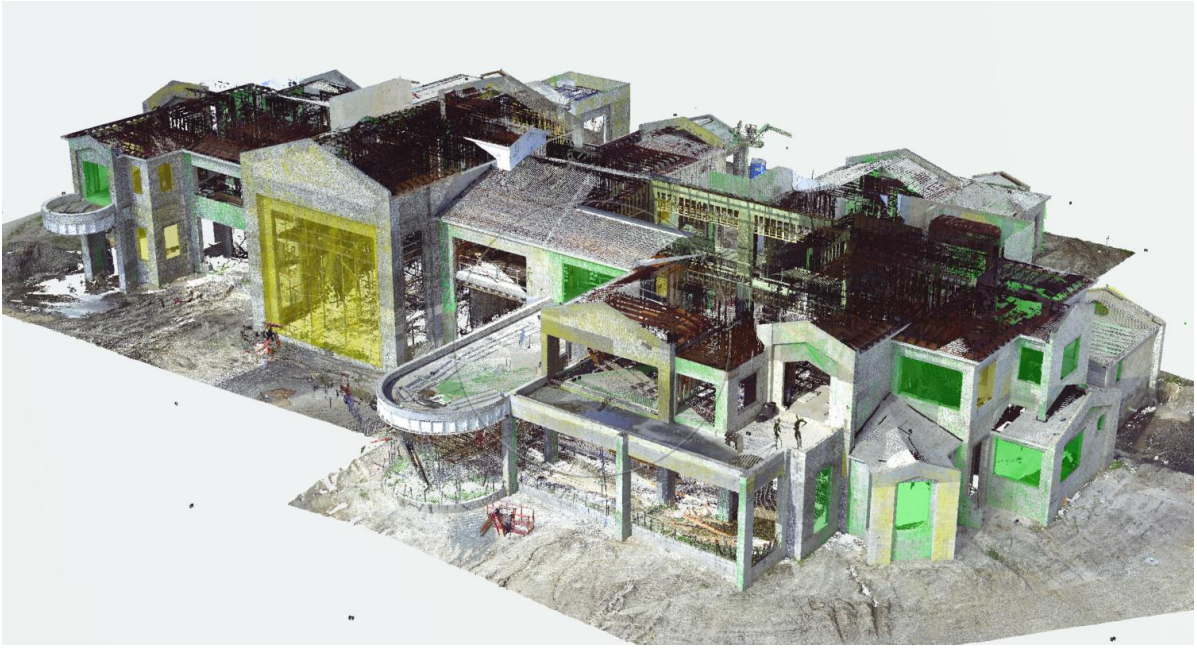
- Structural concrete walls, slabs, and architectural features
- Control points to align the scan with project coordinates
- Multiple scan positions merged into one cohesive model



2. Processing the Point Cloud

The raw scan data is processed using **FARO software** to:

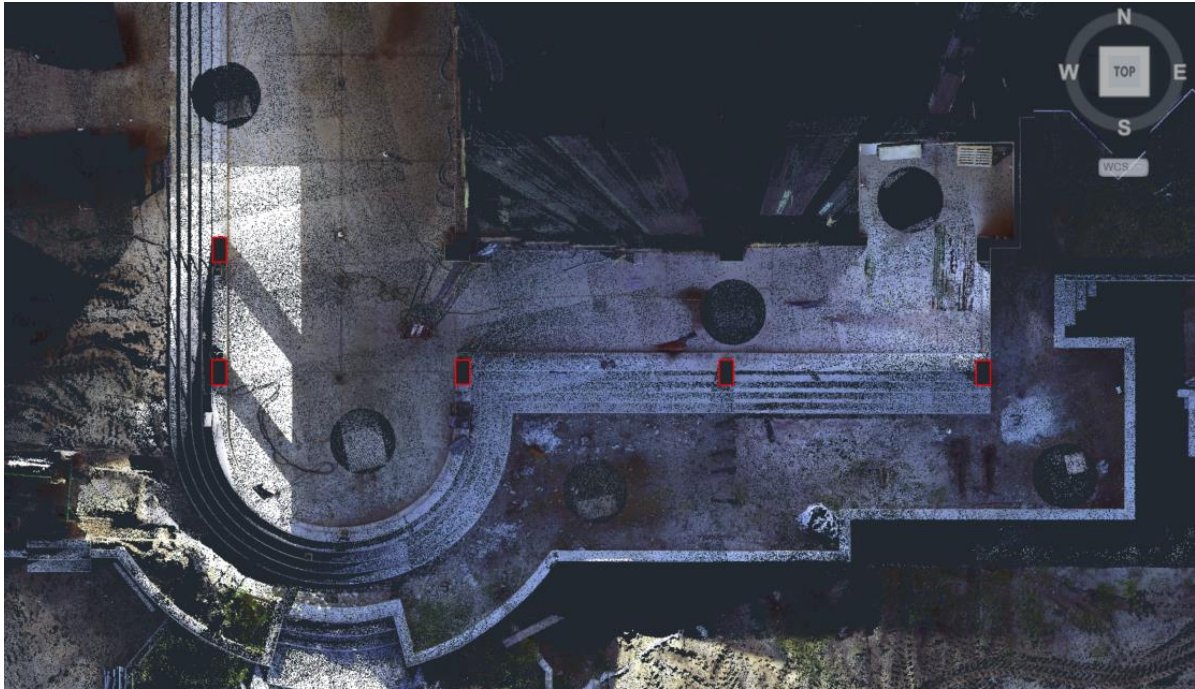
- Register and align all scans
- Clean and optimize the point cloud
- Export in standard formats to prepare it for AutoCAD.

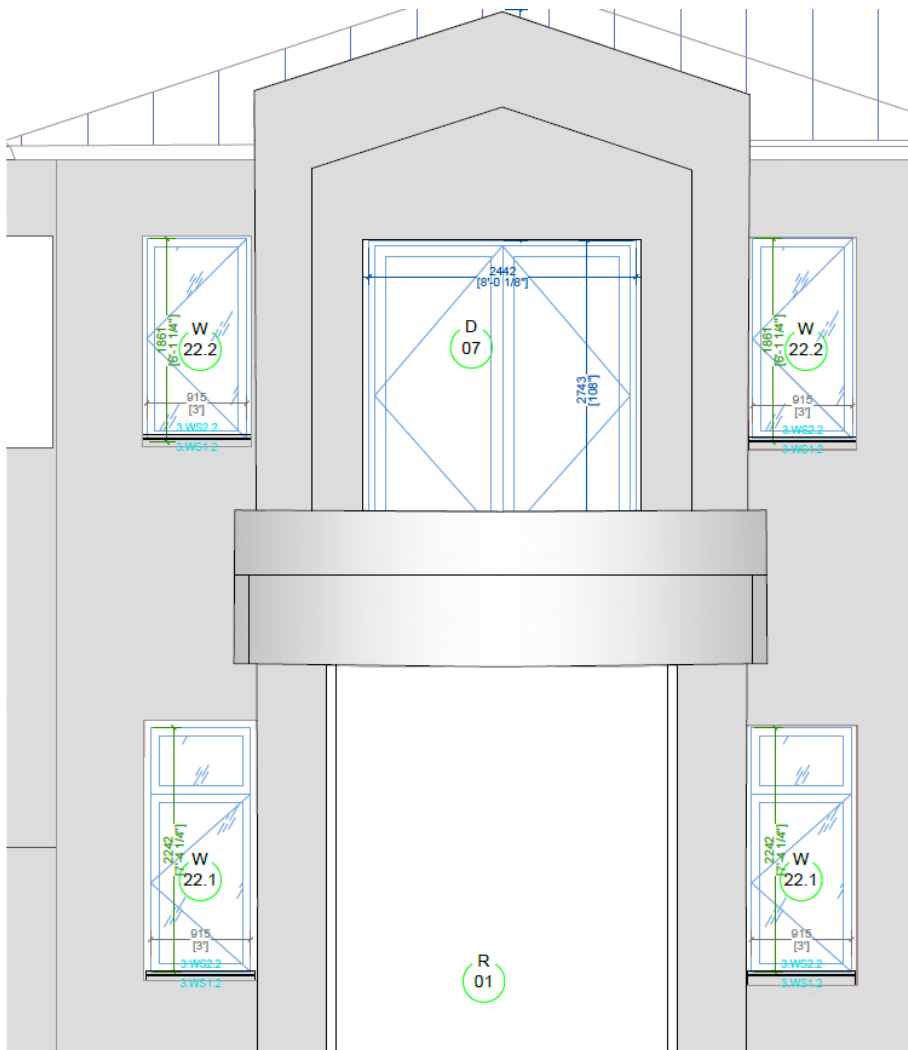
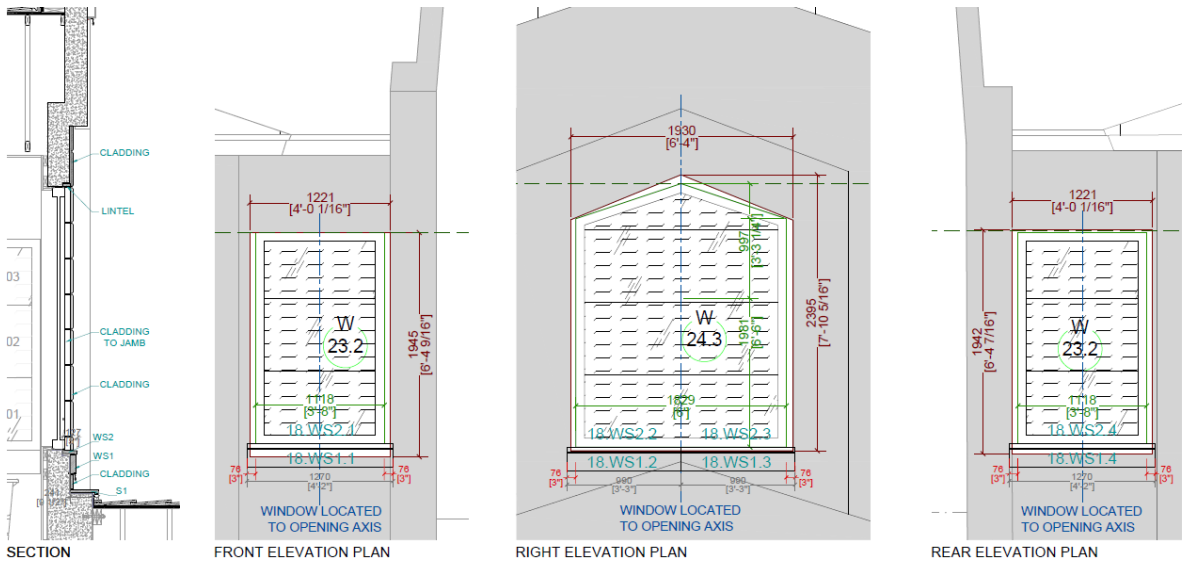


3. As-Built Drawing of Concrete Base

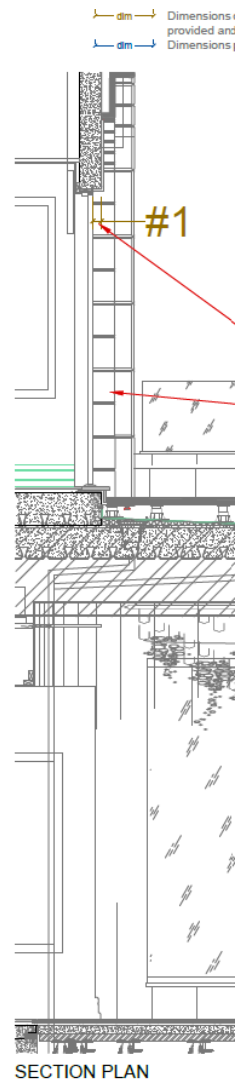
In AutoCAD, we trace the point cloud to create a precise 2D base drawing. This includes:

- Accurate outlines of all concrete elements
- Real-world dimensions, not theoretical ones
- Detection of any deviations from the original design





FRONT ELEVATION PLAN



SECTION PLAN

4. Design Review and Adjustment

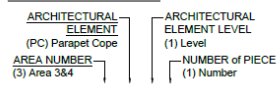
We review all architectural or shop drawings and compare them to the as-built geometry. We adjust and re-draw the pieces to ensure perfect fitment, considering:

- Joint alignment
- Installation tolerances
- Site limitations or modifications

SOCLE, CLADDING, CORNERS & PARAPET COPE

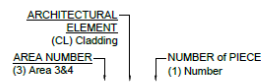
Ref.Red - Black Absolute Marble
 Ref.Green - Silver Pearl Granite
 Ref.Blue - White Thassos Marble

REFERENCE SYSTEM

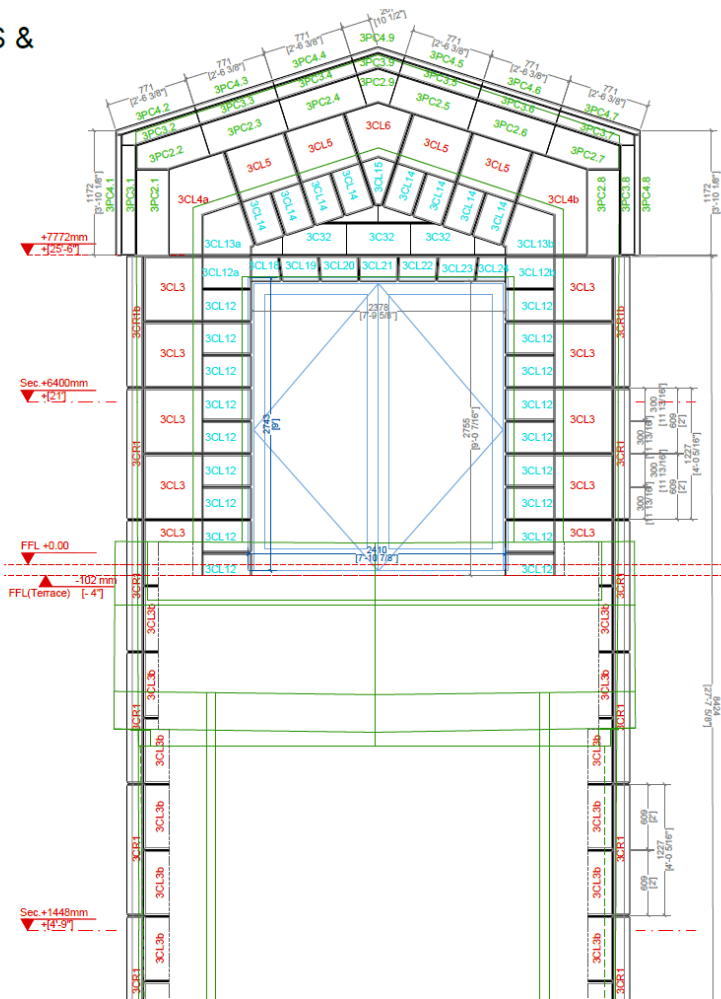
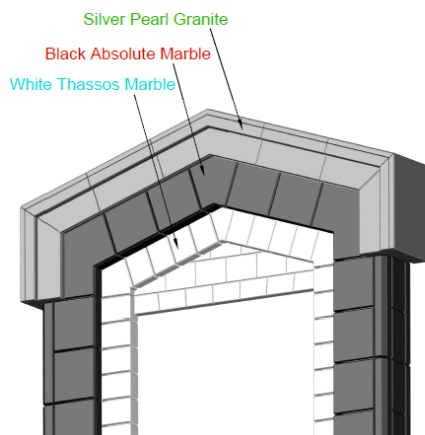


3.PC1.1

REFERENCE SYSTEM



3.CL1

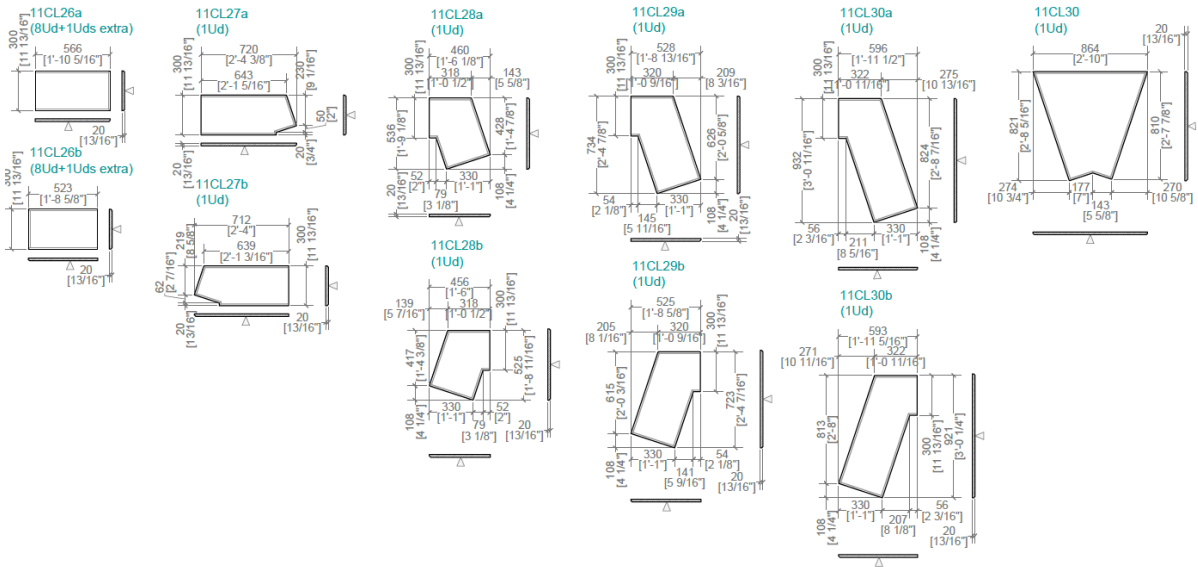
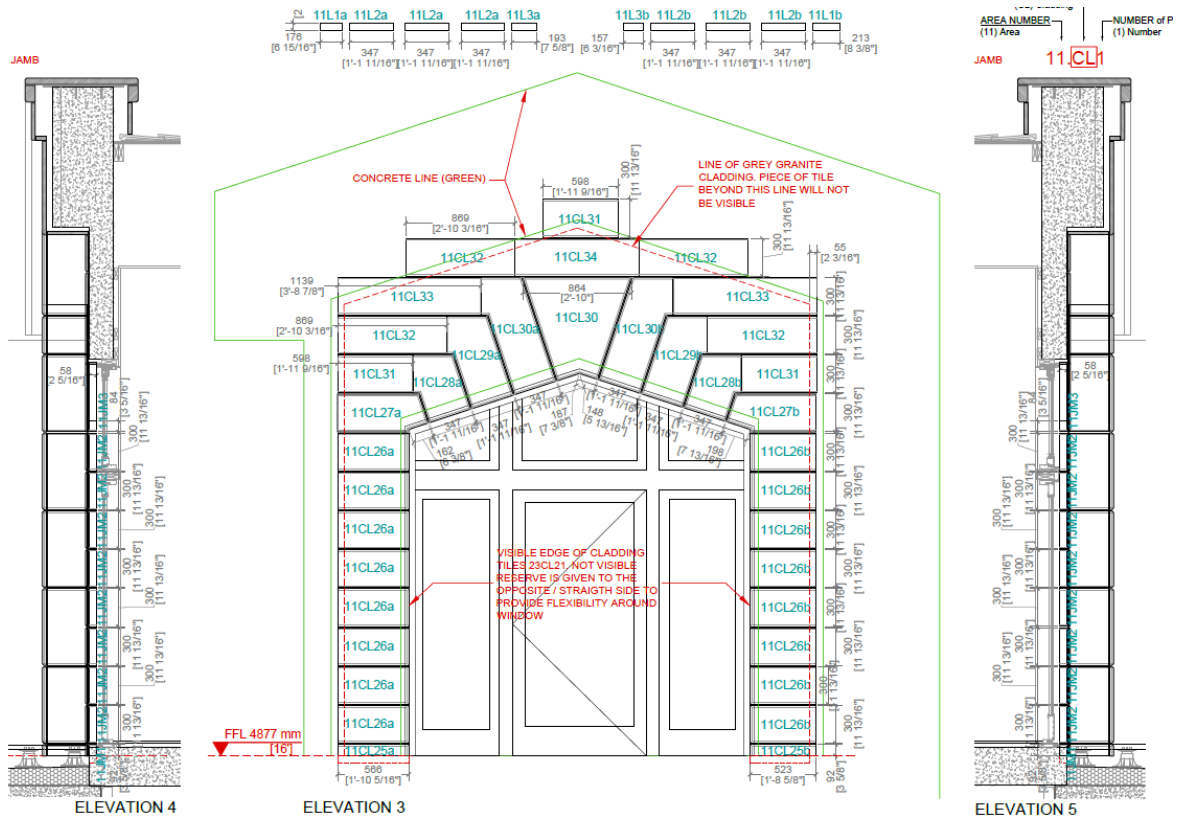


5. Production Drawings / Shop Drawings

Based on updated site dimensions, we produce fully detailed shop drawings for:

- Internal fabrication
- Architect or contractor approval
- Installer coordination

These drawings include labels, piece dimensions, finishes, and anchoring details.



6. Coordination and Quality Control

We maintain constant communication with all project stakeholders to ensure:

- Drawings reflect current site status
- Fabricated elements are precise and ready to install
- Dry-lay in factory for quality control
- Packaging and delivery meet site logistics and timing





Benefits of Our Workflow

- Accuracy: All work is based on real-world conditions
- Efficiency: Minimized on-site rework
- Flexibility: Can adapt from architectural drawings or provide redrafting services
- Experience: Proven track record in high-end European and North American projects