FLORICEL JR DE LOS SANTOS

SENIOR STRUCTURAL, FAÇADE & BIM ENGINEER

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PROFESSIONAL SUMMARY

Registered Civil Engineer (PRC #0137257) with 11 years of multi-disciplinary experience across commercial façade structural engineering, finite element analysis (FEA), LOD 400 BIM detailing, engineering automation, and civil site coordination. Currently Senior Structural Engineer at Kaskal Co., Ltd. leading unitised and stick curtain wall calculations, non-linear glass FEA, custom aluminium extrusions, structural silicone glazing (SSG), steel brackets, concrete anchorages, and Revit/Inventor fabrication workflows. Previously 8.5+ years at Mitsubishi Heavy Industries (MHI) Power Technical Services Corp. delivering heavy industrial Tekla steel and 3D rebar detailing, Bar Bending Schedules (BBS), model-based QTO, and custom C# Tekla Open API plugins (two-time MHI Corporate Innovation Award recipient). Experienced across AA ADM, AISC 360, ACI 318, ACI 315, BS 8666, ASCE 7, ASTM E1300/C1401, EN 1992-4, and AWS D1.1.

CORE TECHNICAL COMPETENCIES

STRUCTURAL & FAÇADE ENGINEERING

Unitised & Stick Curtain Wall Structural Design • Extruded Aluminium Profiles (AA ADM LRFD & ASD) • Non-Linear & IGU Glass FEA (ASTM E1300, SJ Mepla) • Structural Silicone Glazing (ASTM C1401, AAMA TIR-A9) • Steel Brackets & Concrete Anchors (AISC 360, ACI 318, EN 1992-4, Hilti PROFIS) • Seismic Drift, Slab Deflection & Calculation Peer Review

FEA & ANALYTICAL SOFTWARE

Strand7 (3D Space Frame & Non-Linear Plate FEA) • Autodesk Inventor Nastran (3D Solid FEA) • SJ Mepla (IGU & Curved Glass) • STAAD.Pro & OpenSTAAD API • PTC Mathcad

BIM, CAD & LOD 400 DETAILING

Tekla Structures LOD 400 Heavy Steel & 3D Rebar Cages • Autodesk Revit Façade Modulation, Tagging & Families • Autodesk Inventor Parametric 3D Assemblies & Shop Drawings • AutoCAD 2D GA, Fabrication & Erection Drawings • Navisworks Manage Multi-Discipline Clash Detection

ENGINEERING AUTOMATION & APIS

C# Tekla Open API Plugins & Custom Parametric Components • Dynamic Tekla Drawing & BOM/BBS Templates (.tpl) • Python & Excel VBA Scripts for Structural Checks & QTO • Revit Dynamo & OpenSTAAD Workflow Automation

QTO, BBS & CIVIL COORDINATION

3D Model-Based QTO & Bills of Quantities (BoQ) • Bar Bending Schedules (BBS — ACI 315, BS 8666) & Scrap Minimisation • Subcontractor Claims & Progress Auditing • ArchiCAD 3D Sequencing, Relational Database Tracking & S-Curves

STANDARDS, QA/QC & COLLABORATION

Codes: AA ADM, AISC 360, ACI 318/315, ASCE 7, ASTM E1300/C1401, EN 1992-4, AWS D1.1, BS 8666 • Drawing QA/QC, Technical Checking & Junior Engineer Supervision • Bluebeam Revu, MS Office Suite, VS Code

PROFESSIONAL EXPERIENCE

Kaskal Co., Ltd.

Samut Prakan, Thailand | July 2024 – Present

Specialist commercial façade engineering consultancy delivering unitised and stick curtain wall packages across Southeast Asia.

Senior Structural Engineer | July 2026 – Present

Promoted on merit to lead structural engineering verification, peer-review façade design calculations, and direct 3D finite element numerical modelling across commercial unitised curtain wall contracts.

Structural Engineer (dual role: Structural & BIM Engineer) | July 2024 – July 2026

- Produced 2D AutoCAD shop drawings and fabrication details for unitised and stick curtain wall systems, detailing custom aluminium extrusion profiles, glazing pockets, and bracket/anchor interfaces while resolving architectural and structural slab-edge clashes prior to manufacture.
- Designed extruded aluminium curtain wall profiles using the Aluminum Design Manual (AA ADM LRFD & ASD), verifying combined axial/flexural interaction, local flange stability, lateral-torsional buckling (LTB), and wind deflection limits.
- Designed structural steel brackets (AISC 360 / ASCE 7) and cast-in channel / post-installed concrete anchorages (EN 1992-4 / ACI 318 / Hilti PROFIS) under combined tension and shear reactions.
- Analysed insulated (IGU), curved, and non-linear glass panels (ASTM E1300 / SJ Mepla) and sized structural silicone glazing (SSG) joints and bite depths (ASTM C1401).
- Executed 3D solid FEA in Strand7 and Autodesk Inventor Nastran to optimise bespoke aluminium brackets and cladding panels, reducing extrusion die weight while maintaining target safety factors.
- Established the team's standard Revit modelling workflows for façade panel tagging, zoning, and wireframe modulation to control procurement and site lot allocation.
- Extracted model-based quantity take-offs (QTO) for aluminium extrusions, hardware, and glass units to prevent procurement errors and minimise material scrap.
- Developed custom Python scripts and Excel VBA macros to automate repetitive engineering checks, QTO schedules, and documentation; supervised junior engineers and peer-reviewed calculation reports.

Mitsubishi Heavy Industries (MHI) Power Technical Services Corp. Mandaluyong, Philippines | September 2015 – March 2024

3D / 2D Structural Designer (Sakura Project) | Rayong, Thailand | March 2023 – January 2024

- Modelled 3D industrial plant structures and piperacks from STAAD calculations and produced General Arrangement (GA) and foundation design drawings.
- Coordinated multi-disciplinary structural geometry to resolve steel-to-foundation interface clashes prior to fabrication.

Quantity Surveyor & Civil Coordinator (GPD Power Project — On-Site) | Rayong, Thailand | April 2021 – July 2022

- Prepared Bills of Quantities (BoQ) from 3D model take-offs and manual estimations with full calculation backups for client approval.
- Audited subcontractor BoQ submissions and monthly progress claims against contract schedules.
- Modelled 3D reinforcement and generated Bar Bending Schedules (BBS) in Tekla Structures to minimise steel wastage and site placement errors.

Civil Coordinator (Central Java Power Plant Project — On-Site) | Batang, Indonesia | April 2017 – July 2018

- Coordinated on-site drawings and 3D Tekla installation sequences to guide foundation and structural steel erection crews on a 2x1,000MW power station.
- Calculated concrete volumes and installed material quantities from 3D progress models to verify subcontractor billing.
- Maintained digital tracking logs reconciling delivery receipts, installed quantities, and payment records.
- Maintained 3D progress visualisations in ArchiCAD and compiled earned-value S-curves for executive progress reporting.

BIM Modeller, Steel & Rebar Detailer, QA/QC Lead | Mandaluyong, Philippines | September 2015 – March 2024

- Modelled LOD 400 heavy structural steelwork, turbine foundations, and complex 3D reinforcement cages in Tekla Structures to international client standards.
- Developed custom C# Tekla Open API plugins, Tekla Custom Components, and Excel VBA macros to automate repetitive connection detailing and drawing extraction — two-time recipient of the MHI Corporate Innovation Award.
- Engineered automated drawing layout templates that extracted BOM and schedule data directly from 3D models, eliminating manual transcription errors.
- Produced General Arrangement (GA), Erection, Fabrication, and Bar Bending Schedule (BBS) drawings and conducted 3D concrete/rebar clash checks.
- Led drawing QA/QC verification, auditing fabrication packages against design calculations and maintaining project quality records.

EDUCATION & ACADEMIC QUALIFICATIONS

Bachelor of Science in Civil Engineering 2014

Mariano Marcos State University, Batac City, Ilocos Norte, Philippines

5-year professional engineering degree programme (211 credit units) covering structural analysis, reinforced concrete and steel design, and construction engineering.

PROFESSIONAL LICENCES & REGISTRATION

Registered Civil Engineer — Professional Regulation Commission (PRC), Philippines (PRC #0137257) Active

Initial Registration: 2014 (Active & In Good Standing / Renewed December 2024)

REFEREES

Available upon request.