MEGALEIOUS
BUILDERSANDASSOCIATES INC.

Building a safer tomorrow.

COMPANY PROFILE
2025

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CONTENTS

About MEGALEIOUS BUILDERS AND ASSOCIATES INC.

Megaleious Builders and Associates Inc.,is a forward-thinking design-and-build construction and development firm founded by Engr. Marklou Balabbo, a seasoned leader with a solid track record in the construction industry. Prior to launching Megaleious, Engr. Balabbo served as Vice President of RMMR Northern Construction Corporation, where he gained extensive expertise in project management, engineering design, and strategic planning.

Driven by a vision to transform the construction landscape, Engr. Balabbo founded **Megaleious Builders** with the mission of delivering innovative, sustainable, and high-quality solutions tailored to the evolving needs of clients and communities. His leadership combines technical excellence with a passion for forward-looking design and responsible development.

Since its inception, **Megaleious Builders and Associates Inc.** has been dedicated to exceeding industry standards by integrating cutting-edge technology, creative engineering, and environmentally conscious practices into every project. From residential developments to large- scale infrastructure, the company consistently delivers exceptional results that reflect its core values: **Integrity**, **Innovation**, and **Impact**.

As a rising force in the industry, **Megaleious Builders** is committed to shaping a smarter, more sustainable future—building not just structures, but lasting value.

BRIEF HISTORY

OUR MISSION

At **Megaleious Builders and Associates Inc.**, our mission is to transform the construction industry through innovative engineering design and sustainable development practices. We are committed to delivering exceptional quality, efficiency, and creativity in every project— bringing our clients' visions to life with precision and excellence.

We uphold the highest standards of integrity, honesty, and professionalism, fostering trust and transparency in every partnership. Through forward-thinking solutions and a relentless commitment to excellence, we aim to build not just structures—but lasting value for communities and future generations.

OUR VISION

At **Megaleious Builders and Associates Inc.**, we envision becoming a leading force in the construction industry, recognized for our groundbreaking designs, forward-thinking solutions, and unwavering commitment to sustainability.

We aspire to build a future where every structure we create stands as a symbol of innovation and engineering excellence, while making a lasting, positive impact on the environment and society. Our goal is to set new benchmarks in design and construction—pushing the boundaries of possibility while upholding our core values of integrity, honesty, and dedicated service.

Through our work, we aim to inspire progress across the industry, leaving behind a legacy of visionary leadership and responsible development.

OUR SERVICES

At **Megaleious Builders and Associates Inc.**, our integrated Design-Build model delivers streamlined, cost-efficient, and high-quality project execution by bringing together multidisciplinary expertise under one roof. We offer comprehensive design and construction solutions across four core disciplines: Architectural, Civil/Structural, Geotechnical, and MEPF (Mechanical, Electrical, Plumbing, and Fire Protection) engineering

Architectural Design Services

- Conceptual and schematic design
- Space programming and master planning
- Code and zoning compliance
- 3D modeling, renderings, and virtual walkthroughs
- Sustainable and passive design integration
- Interior fit-out and façade design

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Civil and Structural Engineering

- Structural design and analysis (concrete, steel, and composite systems) of any Building envelopes.
- Foundation design and retaining wall systems.
- Site grading, drainage, and earthworks.
- Road and pavement design.
- Structural retrofitting and value engineering.
- Environmental Structure Design
- Commercial and Industrial Building Design.

Geotechnical Engineering Services

- Soil investigation and geotechnical site assessment.
- Boring, sampling, and laboratory testing coordination.
- Bearing capacity and settlement analysis.
- Slope stability and retaining structures design.
- Ground improvement recommendations.
- Foundation system selection (shallow/deep)

SERVICES OFFERED

MEPF Design and Installation

Mechanical (HVAC):

- Heating, ventilation, and air conditioning system design
- Energy modeling and load calculations
- Ducting layout and equipment selection

Electrical:

- Power distribution and lighting system design
- Emergency power systems and lightning protection
- Panel board layouts and energy-efficient solutions

Plumbing and Sanitary:

- Domestic water supply and drainage design
- Stormwater management systems
- Water conservation systems

Fire Protection:

- Fire detection and alarm systems
- Fire sprinkler and suppression system design
- NFPA and local code compliance

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Confidential Hospital Facility in Bulacan, Philippines

The 6-storey steel confidential hospital facility in Bulacan represents a significant investment in regional healthcare infrastructure, designed in accordance with the National Structural Code of the Philippines (NSCP). The project delivers a modern, resilient medical facility designed to support essential healthcare services, with a structural system optimized for seismic performance. The structure utilizes a steel Special Moment-Resisting Frame (SMRF) combined with Buckling-Restrained Braced Frame (BRBF) systems, providing both ductile moment resistance and enhanced energy dissipation under seismic loading.

Megaleious Builders and Associates Inc. was responsible for the structural connection design, using **IDEA StatiCa** to perform advanced connection analysis and verification of critical steel connections. The hybrid SMRF–BRBF system required careful coordination of force transfer between moment connections, braced frames, and column bases to ensure compatible deformation behavior and reliable seismic performance. The design methodology focused on verifying connection strength, stiffness, ductility, and force transfer mechanisms under amplified seismic demands in accordance with NSCP-based seismic parameters, including $R = 8.0$, $\Omega_0 = 2.8$, $R_y = 1.1$, $\beta = 1.05$, and $\omega = 1.3$. Particular attention was given to BRB-related connections to ensure stable inelastic behavior while maintaining constructability and fabrication efficiency.

PROJECT OVERVIEW

The 6-storey steel confidential hospital facility presented a series of complex structural engineering challenges driven by its classification as an essential facility and the use of a dual seismic force-resisting system comprising Special Moment-Resisting Frames (SMRF) and Buckling-Restrained Braced Frames (BRBF) in accordance with the National Structural Code of the Philippines (NSCP).

Under NSCP provisions, the SMRF was required to independently resist a portion of the prescribed seismic base shear, while the BRBF system served as the primary mechanism for energy dissipation. Achieving reliable seismic performance required careful coordination of force sharing, connection stiffness, and member capacity to ensure compatible deformation between the two systems, particularly at interfaces where moment frames and braced frames intersected.

One of the governing challenges involved baseplate connections subjected to combined axial tension, shear, and overturning effects under amplified seismic load combinations. In several locations, uplift forces controlled the design, necessitating explicit consideration of reinforcing bars within the concrete pedestal to effectively transfer tension forces from the steel baseplate into the foundation system. These connections were detailed to satisfy both NSCP seismic requirements and applicable ACI anchorage and concrete capacity provisions.

The project also included highly loaded BRBF connection nodes with multiple intersecting members, resulting in complex force paths and localized stress concentrations. Each critical connection required detailed nonlinear analysis to verify force transfer, ductility, and capacity protection, ensuring that inelastic behavior was confined to intended ductile components such as BRB cores and SMRF beam plastic hinge regions, while protecting columns, connections, and foundations.

ENGINEERING CHALLENGES

Many connections were governed by combined axial force, shear, and bending, requiring a balanced approach between structural performance and constructability. Excessively conservative assumptions risked unnecessary plate thickness, anchor congestion, and complex stiffener detailing, while insufficient detailing could compromise seismic reliability.

To maintain consistency between global analysis results and detailed connection design, Megaleious Builders and Associates Inc. adopted a model-based, digitally integrated workflow, utilizing IDEA StatiCa to translate global force demands into verified, constructible connection solutions.

- **Adoption of a Dual Seismic System:** A **Special Moment-Resisting Frame (SMRF)** combined with **Buckling-Restrained Braced Frames (BRBF)** was selected to balance ductility, stiffness, and energy dissipation, in alignment with **NSCP requirements for essential facilities.**

- **Capacity-Protected Connection Strategy:** Connections were detailed to ensure inelastic behavior was confined to designated ductile elements, such as **BRB cores and SMRF beam hinge regions**, while columns, baseplates, and foundations remained essentially elastic under seismic loading.

- **Explicit Design for Seismic Uplift**: **Baseplate connections** were designed to safely transfer seismic uplift and shear forces into the foundation, incorporating anchors, pedestal reinforcement, and shear lugs to ensure reliable performance under earthquake loading.

- **Advanced Nonlinear Connection Analysis**: **IDEA StatiCa** was utilized to verify connection strength, stiffness, and ductility under realistic loading conditions, reducing reliance on overly conservative assumptions and supporting optimized detailing.

- **Integrated Digital Workflow:** A model-based approach was maintained to ensure alignment between global analysis results and detailed connection design, improving coordination, accuracy, and overall design confidence.

ENGINEERING APPROACH

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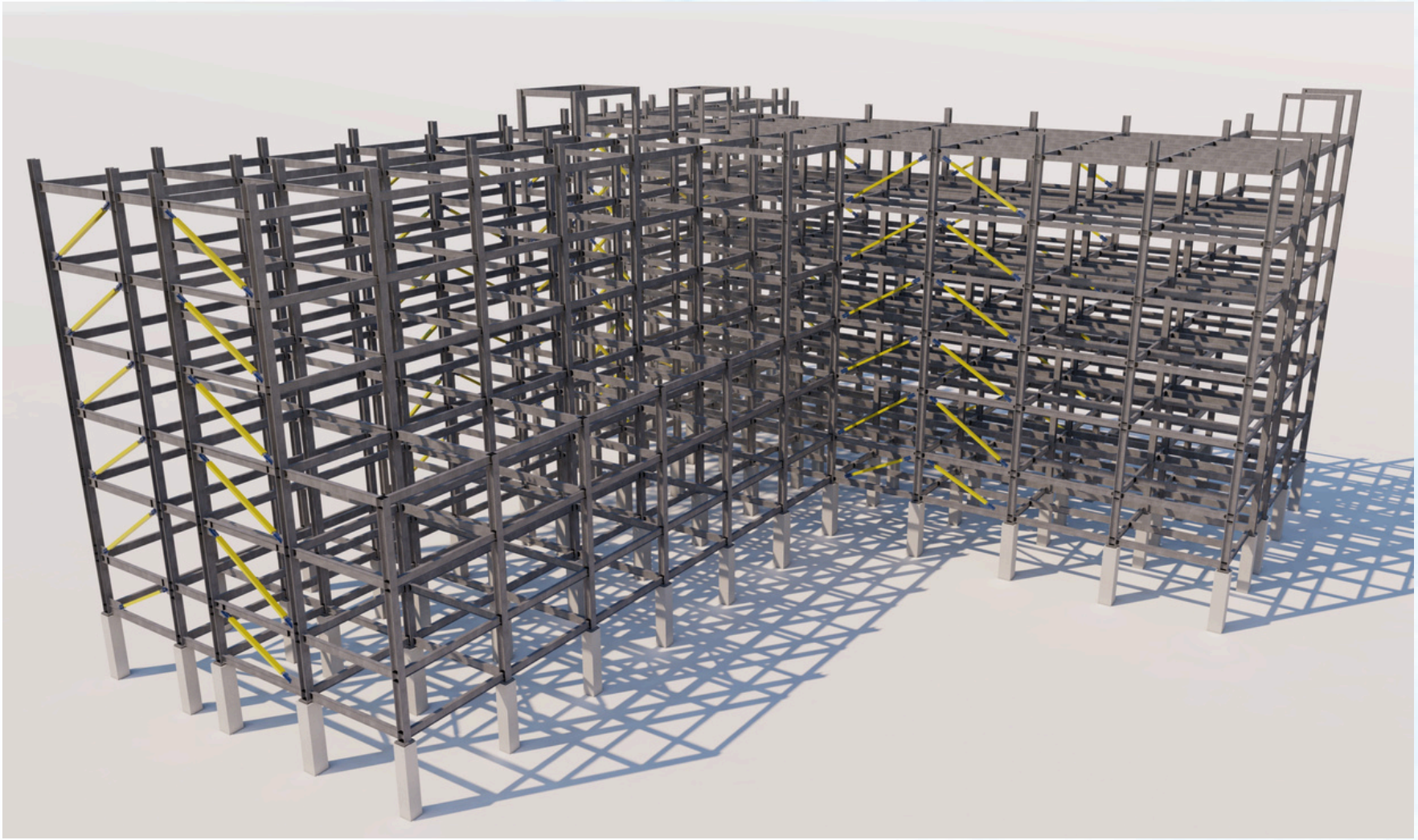
Skeleton View of Confidential Hospital Facility Structure



PROJECT OUTCOMES

MEGALEIOUS BUILDERS AND ASSOCIATES INC.
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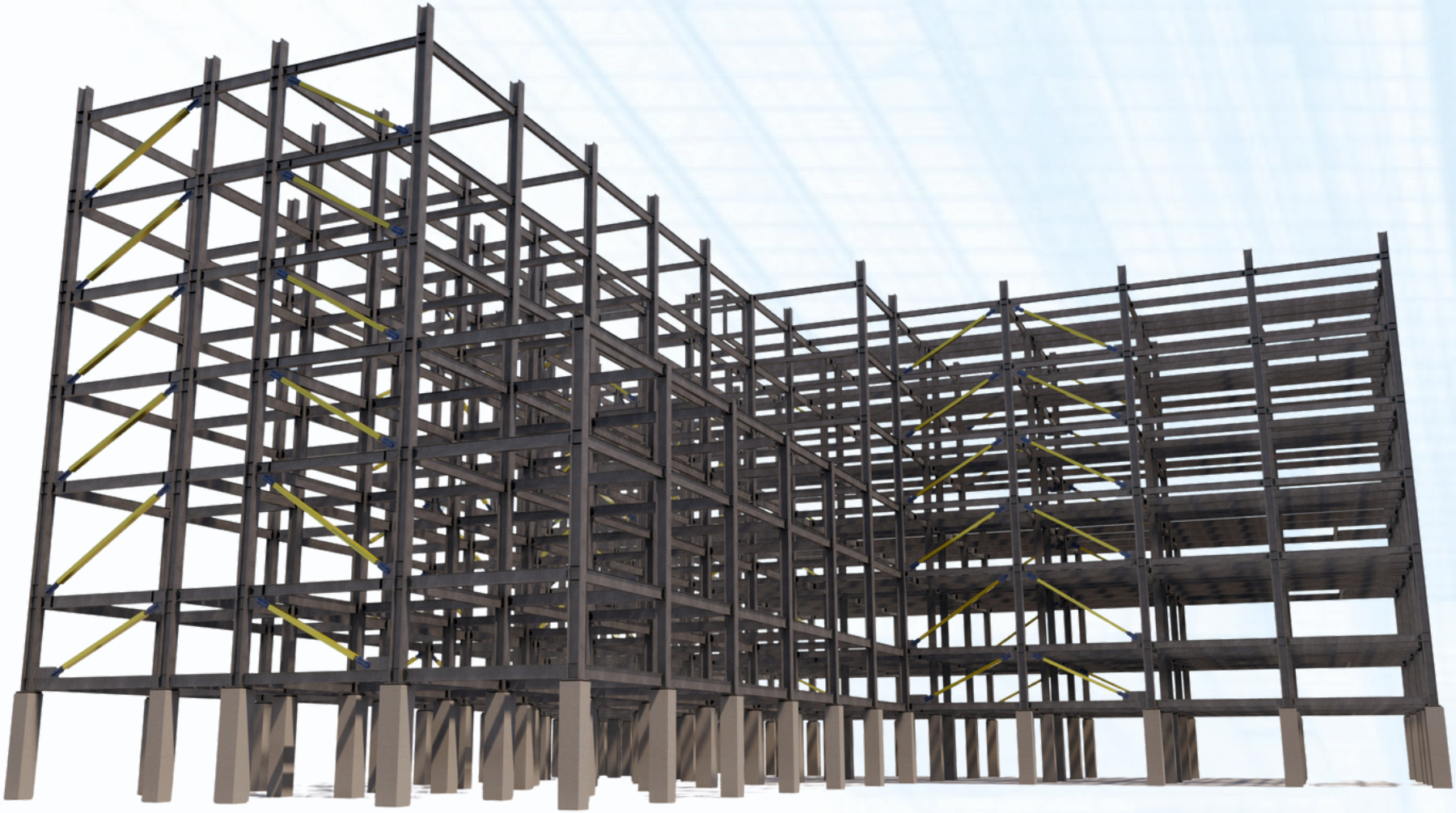
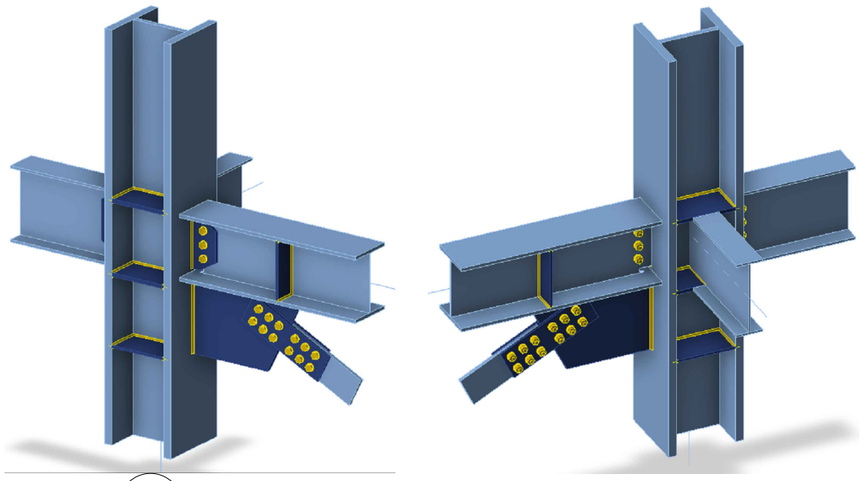
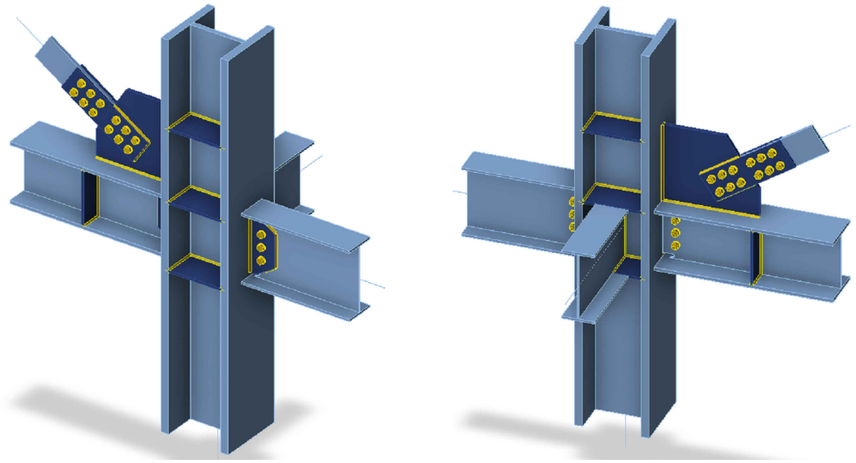
Skeleton View of Confidential Hospital Facility Structure



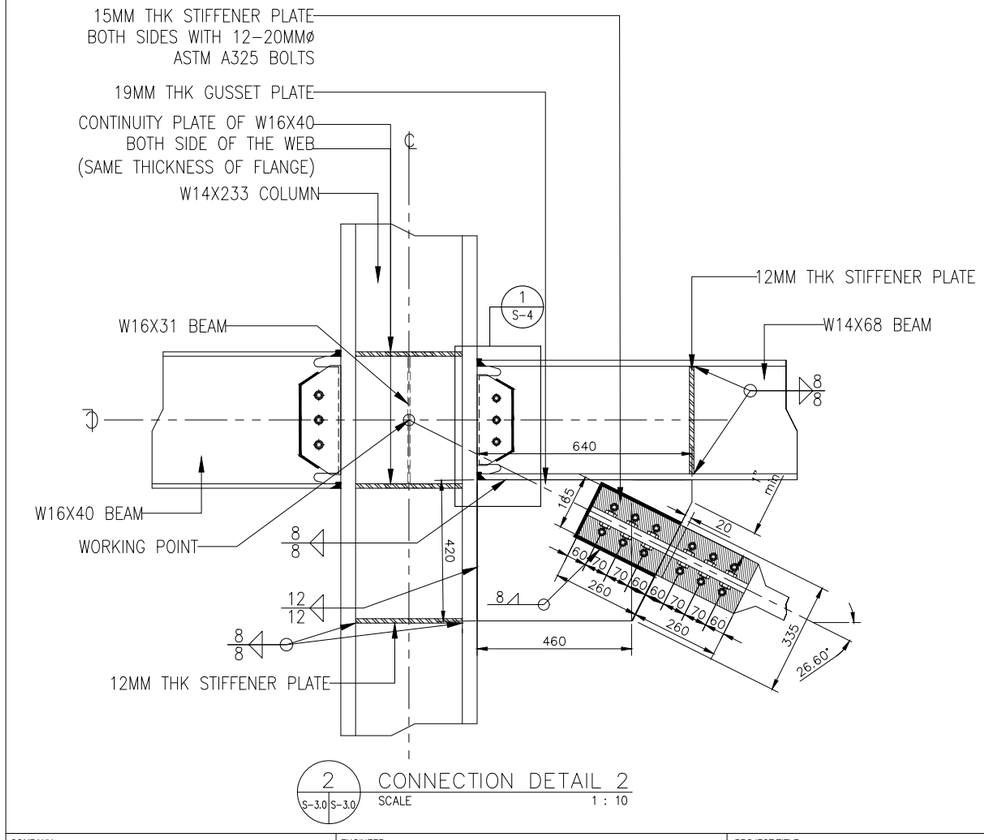
PROJECT OUTCOMES



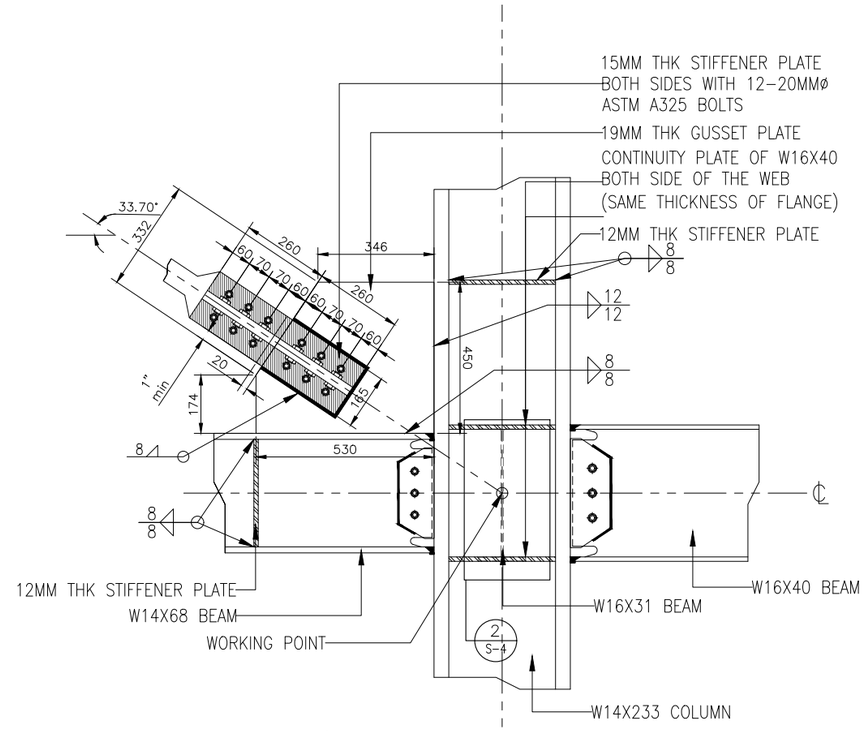
1 S-3.0 S-3.0 CONNECTION DETAIL 2 ISOMETRIC VIEW
SCALE 1 : NTS



3 S-3.0 S-3.0 CONNECTION DETAIL 3 ISOMETRIC VIEW
SCALE 1 : NTS



2 S-3.0 S-3.0 CONNECTION DETAIL 2
SCALE 1 : 10



4 S-3.0 S-3.0 CONNECTION DETAIL 3 AND 4
SCALE 1 : 10

COMPANY:	ENGINEER:	PROJECT TITLE:	CLIENT:	SHEET CONTENT:	REVISION:				SHEET NO.:
MEGALEIOUS BUILDERS AND ASSOCIATES G04 -1 FH Manere Building 1, 18 Matahimik St. Malaya Quezon City	MARK LOU G. BALABBO STRUCTURAL ENGINEER	6-STOREY STEEL CONFIDENTIAL HOSPITAL FACILITY LOCATION:		CONNECTION DETAIL 2 CONNECTION DETAIL 3 AND 4 DESIGNED BY: DRAWN BY: CHECKED BY: DATE:	NO.	DESCRIPTION	REVISED BY	APPROVED BY	DATE	S

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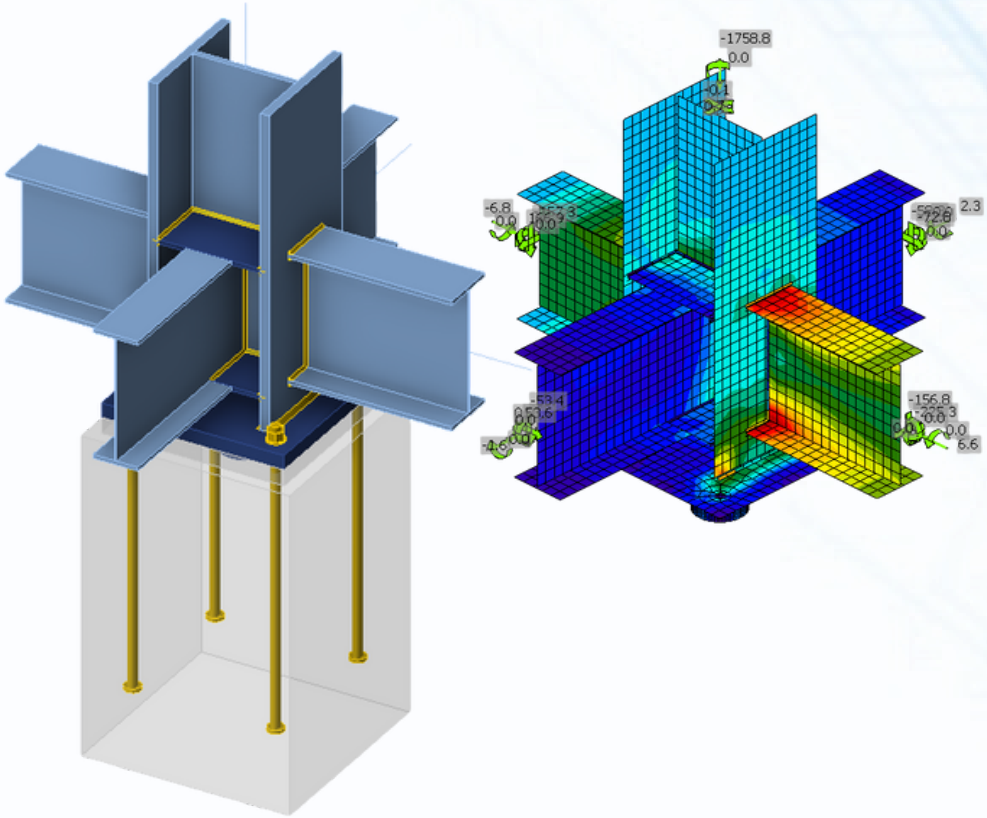
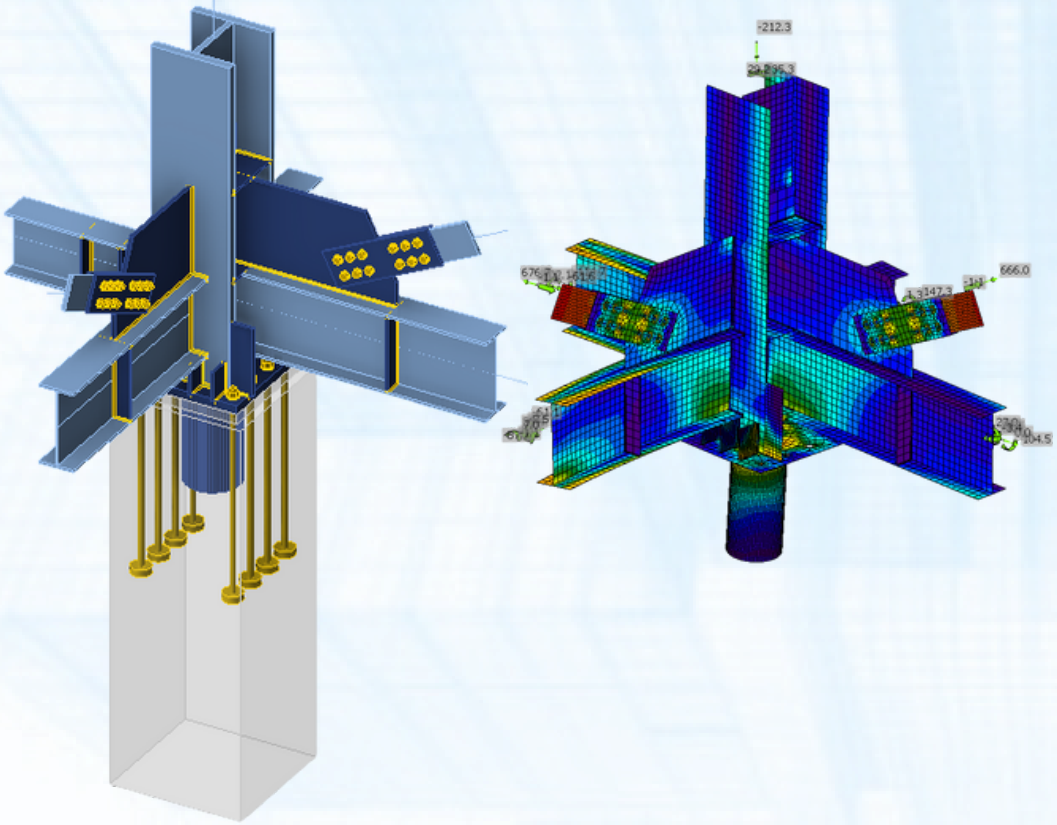
CONNECTION DESIGN SAMPLE

BASEPLATE CONNECTION



BASPEPLATE CONNECTION WITH BRACING



Baseplate connections are critical to overall structural stability, requiring reliable transfer of seismic forces into the foundation. The use of advanced analysis tools such as IDEA StatiCa simplifies the verification of anchor forces, pedestal reinforcement contribution, and shear lug behavior under seismic load combinations, ensuring safe and constructible baseplate solutions.

PROJECT OUTCOMES

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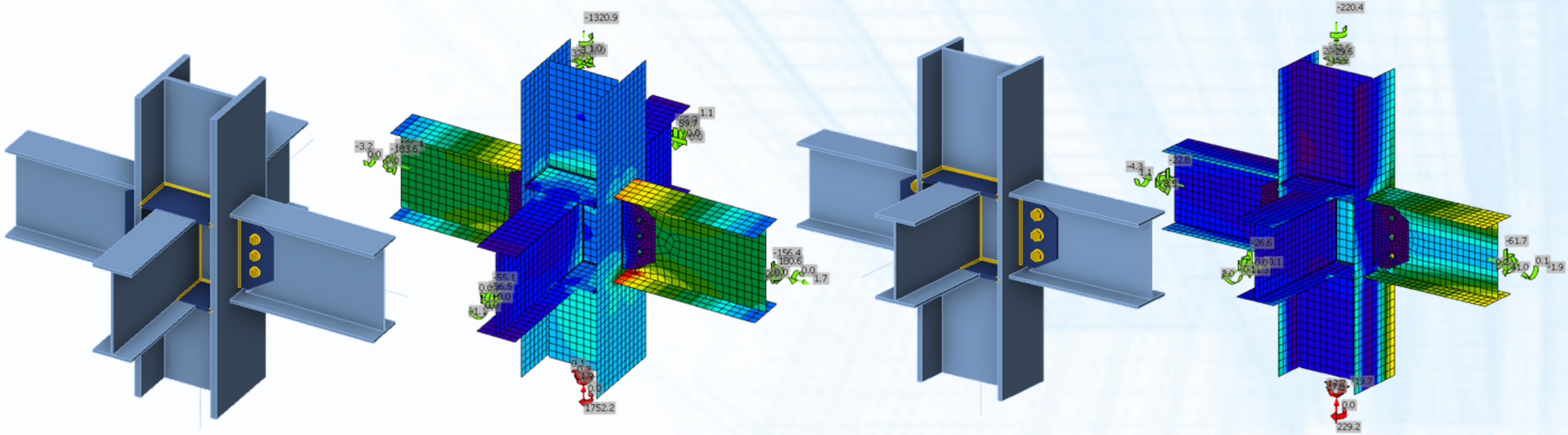
CONNECTION DESIGN SAMPLE

COLUMN TO BEAM CONNECTION



Column-to-beam connections are critical to the performance of moment-resisting frames. Using IDEA StatiCa, complex force transfer, connection stiffness, and detailing requirements are verified in a single model—enabling safe, efficient, and constructible connection solutions that support reliable seismic performance.

PROJECT OUTCOMES

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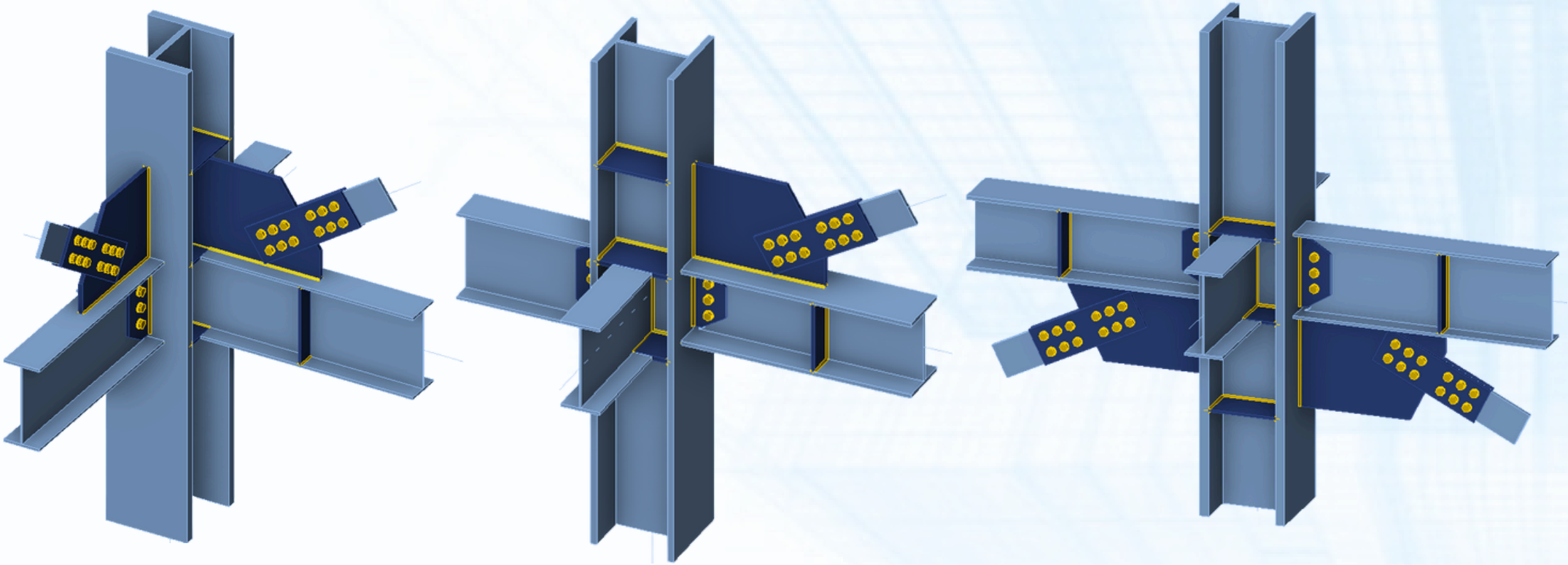
CONNECTION DESIGN SAMPLE

COLUMN TO BEAM CONNECTION WITH BUCKLING RESTRAINED BRACE



Connections involving buckling-restrained braces introduce complex force paths and high seismic demands. Using IDEA StatiCa, these multi-member column-to-beam and BRB connections are analyzed through finite element modeling, simplifying verification of force transfer, stiffness, and detailing to deliver safe, efficient, and constructible seismic solutions.

PROJECT OUTCOMES

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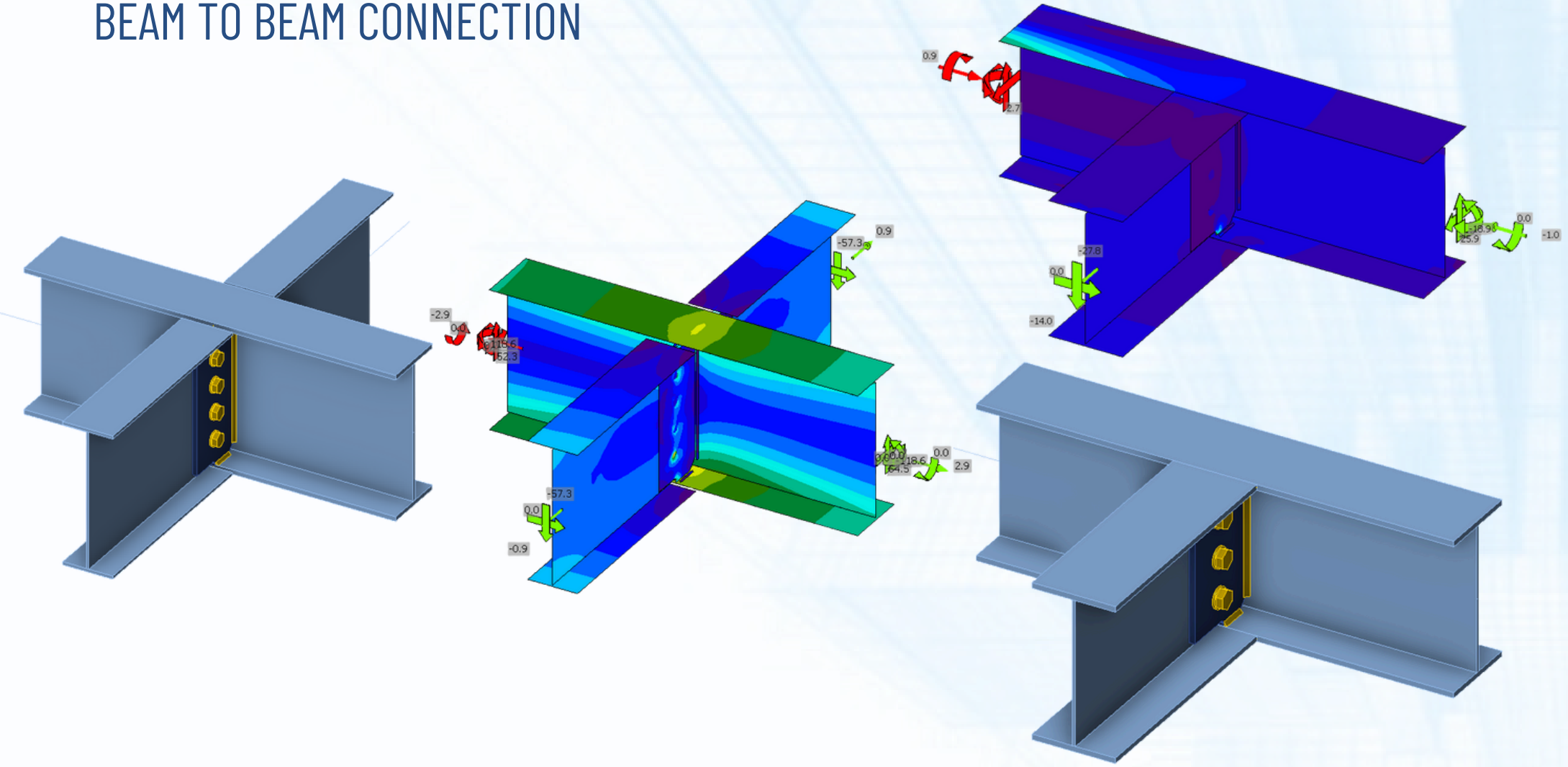
CONNECTION DESIGN SAMPLE

BEAM TO BEAM CONNECTION



IDEA StatiCa simplifies beam-to-beam connection design by verifying strength and detailing through finite element analysis in one clear model.

PROJECT OUTCOMES

LIST OF ON GOING PROJECTS

Project Name : **CENTRALIZED WATER TREATMENT FACILITY(CWTF) DIELDRIN REMOVAL**

Owner : Filinvest Client : ASCOF Construction, Inc.

Location : Filinvest Mimosa, Clark Pampanga

Nature of Work : Design and Construct

Project Name : **VARIOUS LIFT STATIONS**

Owner : MANILA WATER: ASCOF Construction, Inc.

Location : Quezon City

Nature of Work : Structural Design of FRP Lift Station

Project Name : **FIT OUT WORKS for CELINA MANSION**

Owner : MR AND MRS. NOLASCO DUGA

Location : Binan Laguna

Nature of Work : Civil/Architectural and Electrical Works

Project Name : **CONSTRUCTION OF OPEN CANAL- PAMPANGA MRF WWTP**

Owner : Prime Integrated Waste Solutions, Inc. Client : Vodaren Solutions, Inc.

Location : Pampanga

Nature of Work : Design and Construct

LIST OF ON GOING PROJECTS

Project Name : **CONSTRUCTION OF EQUIPMENT SUPPORTS- PAMPANGA MRF WWTP**
Owner : Prime Integrated Waste Solutions, Inc. Client : AE AND J CONSTRUCTION
Location : Pampanga
Nature of Work : Design and Construct

Project Name : **LADEJA RESORT**
Owner : JV Property Management Universal Corporation
Nature of Work : Detailed Engineering Design (MEPFS)

Project Name : **TIERRA PURA RESIDENCE**
Owner : MR. TED FAILON
Nature of Work : Detailed Engineering Design (MEPFS)

LIST OF COMPLETED PROJECTS

Project Name : **GRAB MARIKINA OFFICE AND WAREHOUSE**
Owner : Grab Philippines
Client : Vynex Signs
Location : 56, 58 A. Bonifacio Avenue, Marikina City
Scope of Work : Structural Investigation of Existing Warehouse, Structural Retrofitting Labor & Materials), Electrical Design and Construction (Labor & Materials) and Interior Fit-Out (Labor &Materials)

Project Name : **LAZADA E-LOGISTICS SORTATION CENTRE**
Owner : Lazada Philippines
Client : TAF Consultancy
Location : San Pedro, Laguna
Scope of Work : Structural Design and Build for Civil Works (Labor & Materials) and Interior Fit-Out (Labor & Materials)

Project Name : **GRAB BIKE TRAINING CENTER**
Owner : Grab Philippines
Client : Vynex Signs
Location : 56, 58 A. Bonifacio Avenue, Marikina City
Scope of Work : Wall and Floor Painting (Epoxy Paint) of Existing Warehouse

Project Name : **CONSTRUCTION OF PERIMETER FENCE & SITE DEVELOPMENT AND FACILITY AREA**
Owner : Manila Water Company Inc.
Client : ASCOF Construction Inc.
Location : Pinugay, Baras Rizal
Nature of Work : Designand Construct

LIST OF COMPLETED PROJECTS

Project Name : **BELLAVITA ELEVATED WATER TANK**
Owner : Manila Water Company, Inc.
Client : Pythagoras
Location : Mandurriao, Ilo-Ilo
Scope of Work : Design and Build (Labor & Materials) of Foundation

Project Name : **CARDONA ADDITIONAL CHEMICAL TANKS & EE WORKS**
Owner : Manila Water Company, Inc.
Client : Pythagoras Construction Inc.
Location : Cardona Rizal
Scope of Work : Construction for Civil and Electrical Works (Labor & Materials

Project Name : **LN2 VJ PIPING SUPPLY**
Owner : Air Liquide
Client : Artelia
Location : Tagaytay Road, Pulong Sta. Cruz, Sta Rosa Laguna
Scope of Work : Structural Design of Foundation and Bolt Connection

Project Name : **PROPOSED THREE (3) STOREY RESIDENCE W/ ROOF DECK**
Client : TAF Consultancy
Location : Navotas City
Scope of Work : Multi-Discipline Engineering Design

LIST OF COMPLETED PROJECTS

Project Name : **PROPOSED POZO ROBO VARIOUS VILLAS**
Owner : Ropali
Client : Arch. Dorey Dee M. Balisi
Location : Sta. Ana Cagayan
Scope of Work : Multi-Discipline Engineering Design

Project Name : **PROPOSED FOUR (4) STOREY MIXED-USED BUILDING W/PENTHOUSE**
Owner : Sps. Russel & Jane Bernal
Client : Arch. Oswald Puzon
Location : Don Claudio St., Pangapisan N., Lingayen, Pangasinan
Scope of Work : Structural Design

Project Name : **PROPOSED C60 VIE TANK, PUREFOODS HORMEL**
Owner : Air Liquide
Client : Air Liquide
Location : Governor's Drive, General Trias
Scope of Work : Structural Design

Project Name : **PROPOSED C60 VIE TANK, BOUNTY FRESH TARLAC**
Owner : Air Liquide
Client : Air Liquide
Location : Sto. Cristo, Concepcion Tarlac
Scope of Work : Structural Design

LIST OF COMPLETED PROJECTS

Project Name : **BLAINE ONE(1) TONNER PROCESSING AREA**
Owner : Blaine Manufacturing Corporation
Client : Blaine Manufacturing Corporation
Location : Blaine Industrial Complex, Governor's drive, Kamias road, Brgy. Bancal, Carmona, Cavite
Scope of Work : Structural and Electrical Works

Project Name : **GRAIN DRYING AND SILO STORAGE FACILITY**
Owner : Surico
Client : Engr. Patrick Prudencio
Location : Brgy. Sirawan, Toril, Davao Del Sur
Scope of Work : Structural Design of Foundation

Project Name : **Shell Select Store Mamplasan**
Owner : Shell Philippines
Client : Vynex Signs
Location : SLEX Mamplasan, Binan Laguna
Scope of Work : Electrical Design and Construction (Labor & Materials) and Interior Fit-Out (Labor & Materials)

Project Name : **Two (2) Storey Residence**
Owner : Mr. Jansen Enriquez
Client : Mr. Jansen Enriquez
Location : Venare,Laguna
Scope of Work : Design and Build (Labor & Materials) of Multi-Discipline Engineering and Architectural Works

LIST OF ON COMPLETED PROJECTS

Project Name : **Three (3) Storey Residence**
Owner : Mr. Jayjay Cenon Tarun
Client : Mr. Jayjay Cenon Tarun
Location : Sta. Monica, Novaliches Quezon City
Scope of Work : Design and Build (Labor & Materials) of Multi-Discipline Engineering and Architectural Works

Project Name : **SAN JUAN CITY BJMP EXTENSION BUILDING**
Owner : San Juan BJMP
Client : Arch. Malyn Catubao
Location : San Juan City
Scope of Work : Structural Design

Project Name : **FIVE STOREY (5) HOTEL**
Owner : EDL Exemplar Builders & Development Corp.
Client : Bezallel Design Group Canada
Location : San Mateo Rizal
Scope of Work : Structural Design

Project Name : **CHILD JESUS OF PRAGUE SCHOOL ELEMENTARY CAMPUS**
Owner : Mr. Alvin Aprecio
Client : D&A Groupsynergy, Inc.
Location : Brgy. Calumpang, Binangonan Rizal
Scope of Work : Structural Design

LIST OF COMPLETED PROJECTS

Project Name : **TWO (2) STOREY COMMERCIAL BLDG. W/ ROOF DECK**
Owner : Mr. Martin Aguirre
Client : Mr. Martin Aguirre
Location : Gen. Mariano Alvarez, Cavite City
Scope of Work : Structural Design

Project Name : **PORTICO RETAIL**
Owner : Portico Land Corp. Client : Engr. Jorge Genota Location : Oranbo, Pasig City Scope of Work : Structural Design

Project Name : **SHOWCASE CARPET BUILDING**
Owner : Mr. Ahmad Rahnema
Client : Mr. Ahmad Rahnema
Location : Marcos Hiway, Cainta Rizal
Scope of Work : Structural Investigation

Project Name : **PROPOSED WAREHOUSE AND COMMERCIAL BUILDING**
Owner : Mr. Martin Aguirre
Client : Mr. Martin Aguirre
Location : Covelandia Cavite
Scope of Work : Structural Design

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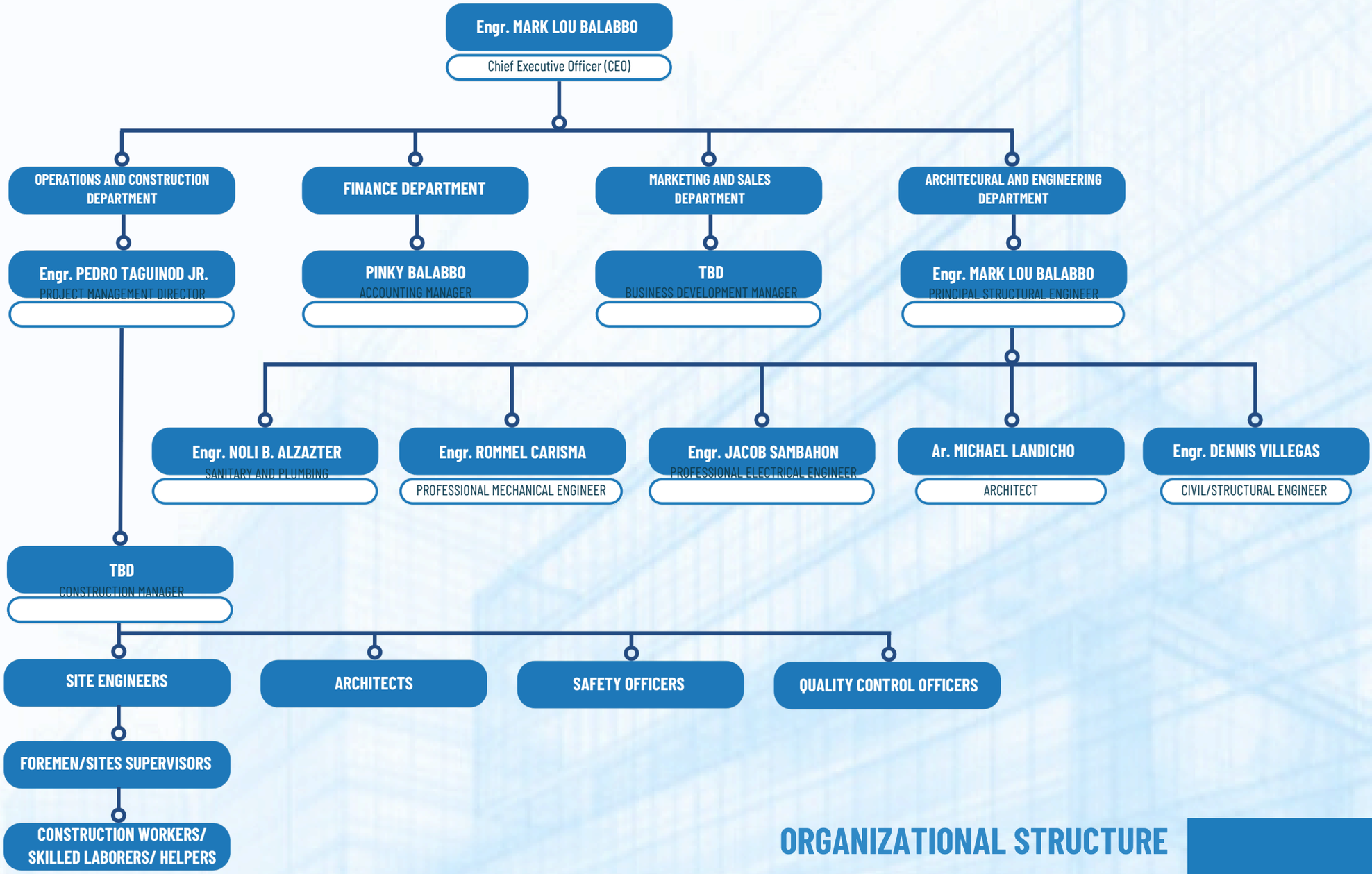
ORGANIZATIONAL CHART



ORGANIZATIONAL STRUCTURE

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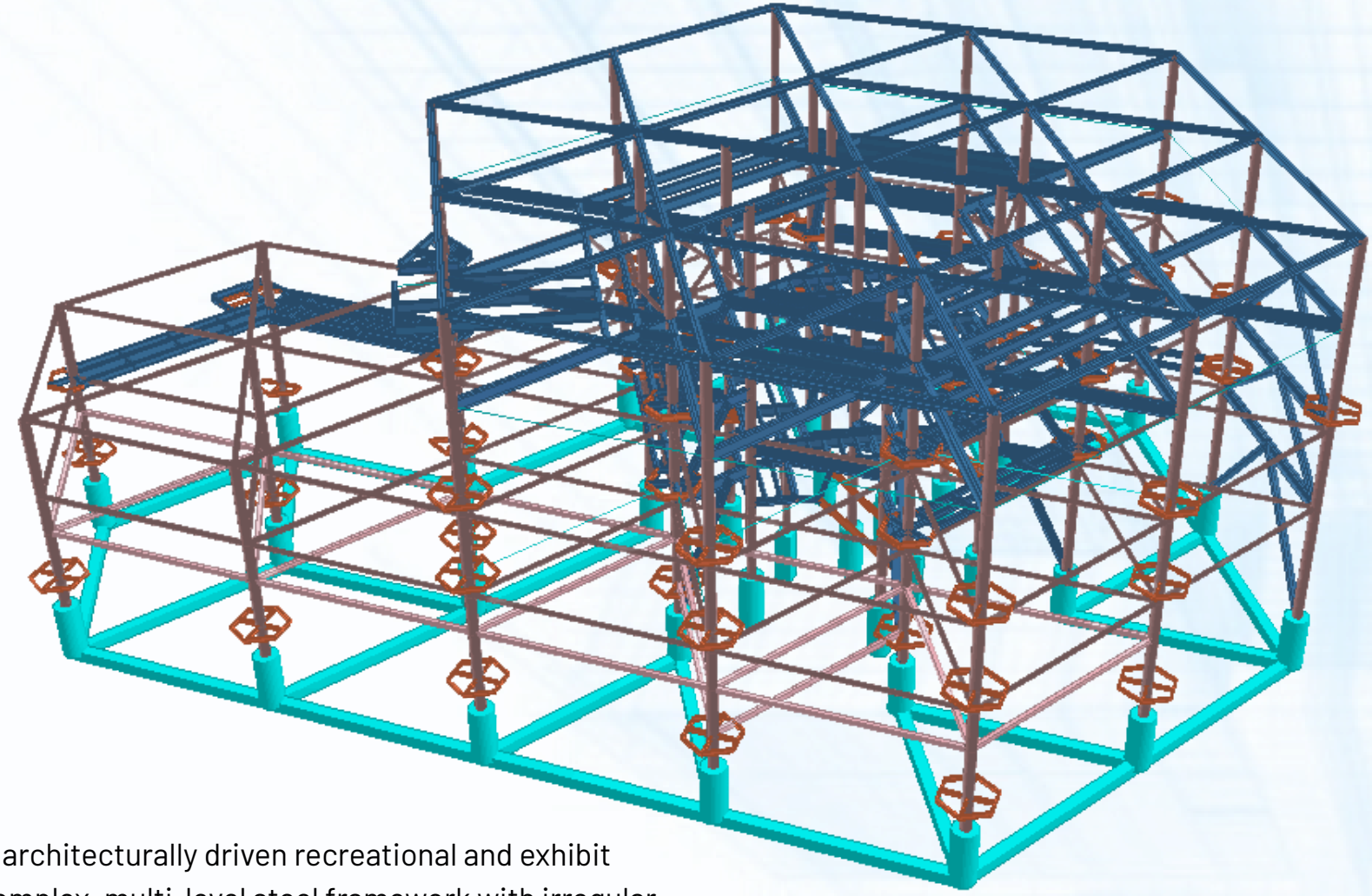
Eco-Wonder Park in Calamba Laguna



Eco-Wonder Park is an architecturally driven recreational and exhibit structure featuring a complex, multi-level steel framework with irregular geometry. IDEA StatiCa was used to verify critical connections through finite element analysis, ensuring accurate force transfer, structural reliability, and constructible solutions while preserving the project's design intent.

PROJECT OUTCOMES

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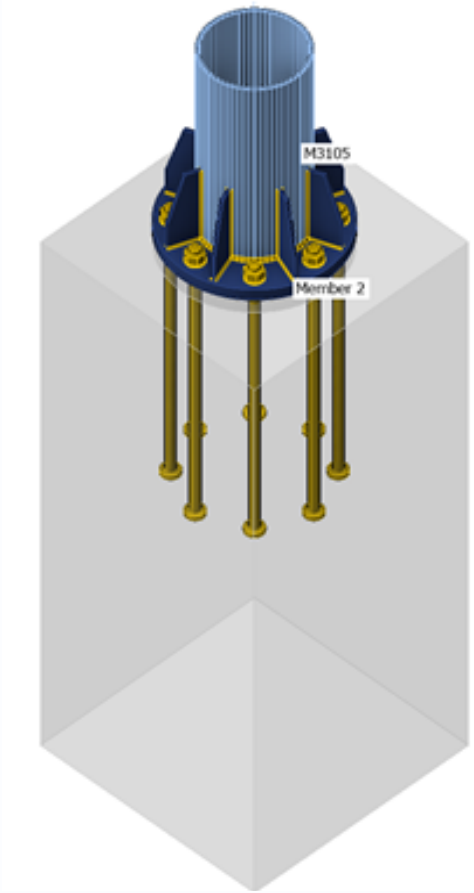
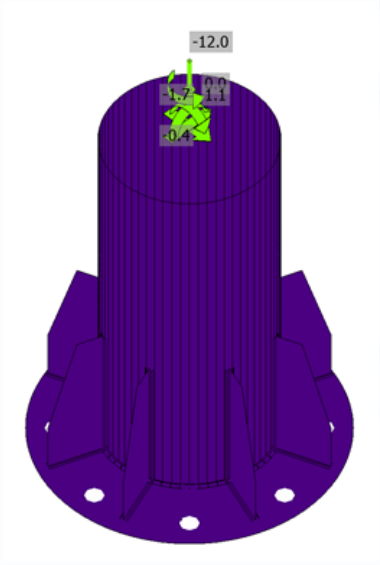
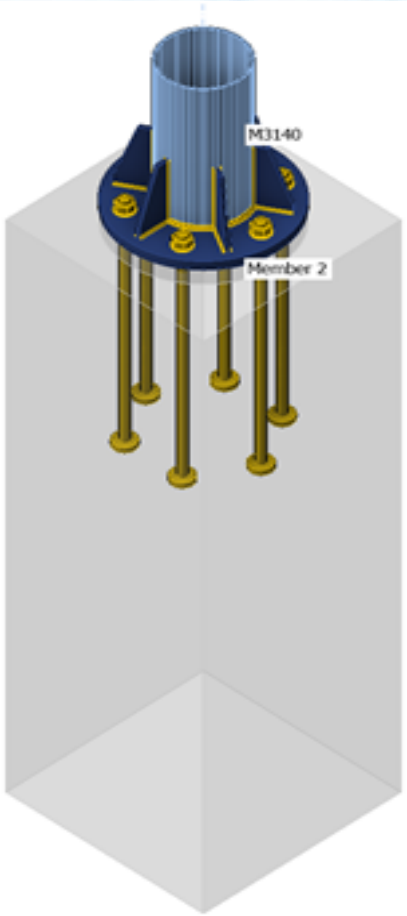
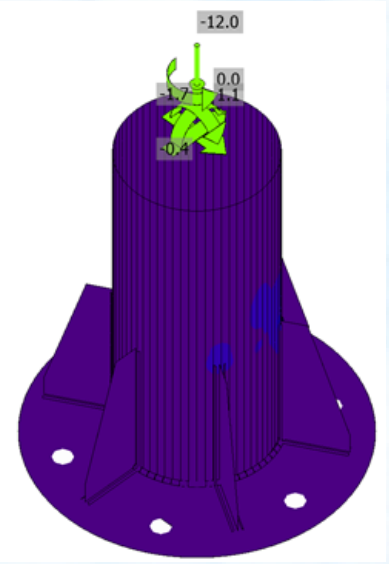
CONNECTION DESIGN SAMPLE

BASEPLATE CONNECTION





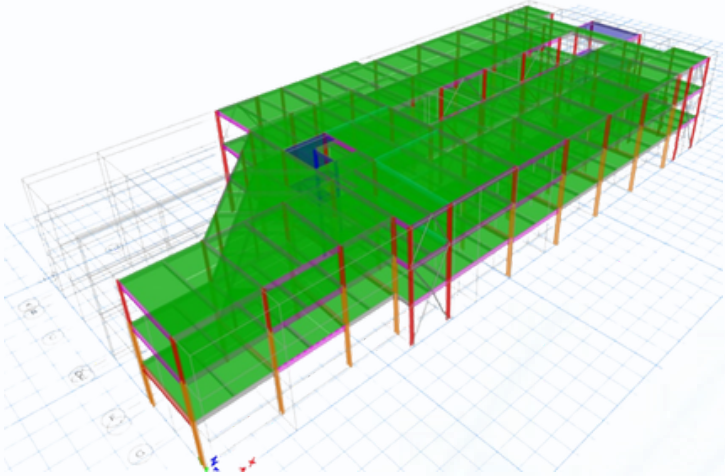


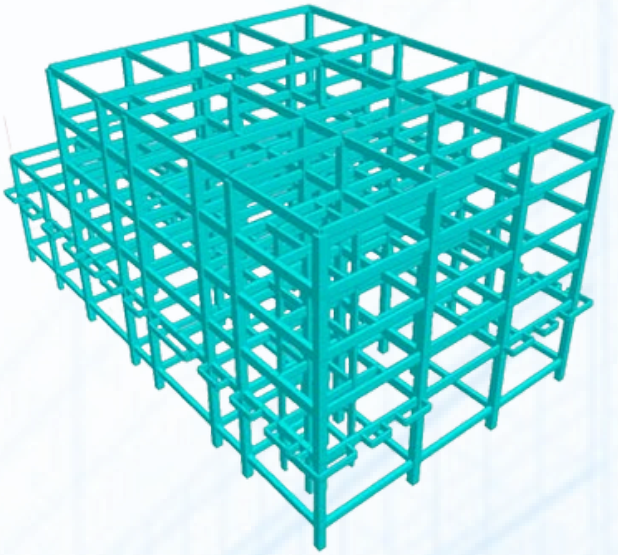


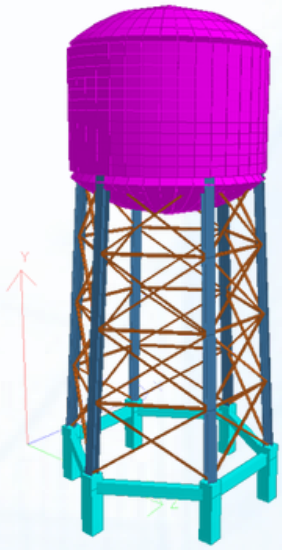
Using IDEA StatiCa, the complex interaction between the baseplate, shear lug and shear transfer mechanisms was accurately assessed under governing seismic load combinations. This advanced analysis enabled clear verification of uplift, shear, and bearing behavior, resulting in a safe, code-compliant, and constructible baseplate solution that supports overall structural stability.

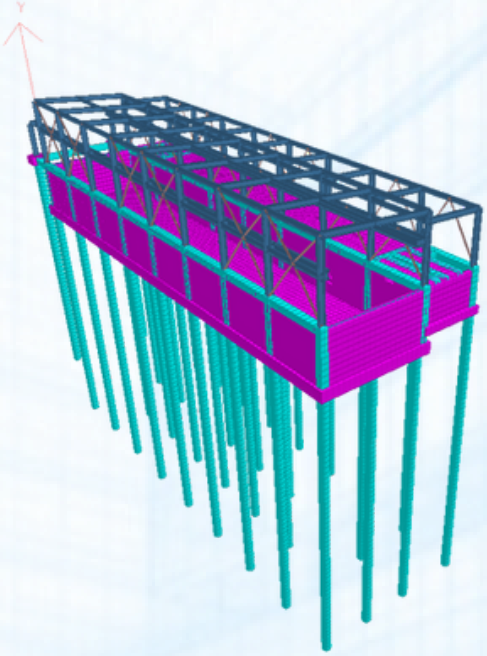
PROJECT OUTCOMES

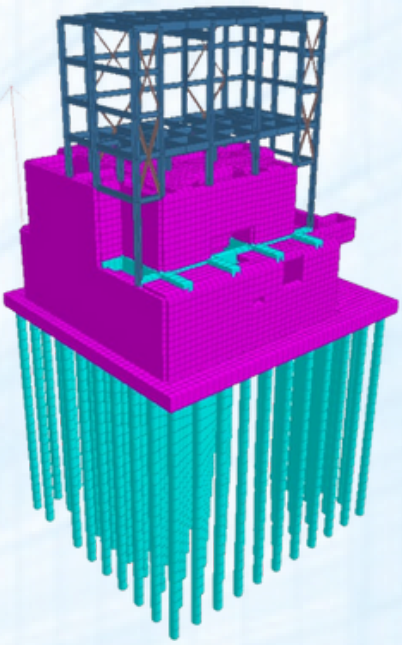
3D MODEL OF DESIGN PROJECTS











PROJECT PHOTOS

The successful delivery of this complex steel hospital facility highlights the value of advanced, model-based connection design in achieving resilient and constructible structures. By leveraging IDEA StatiCa, Megaleious Builders and Associates Inc. was able to accurately capture complex stress distributions, visualize force flow, and verify connection strength, stiffness, and ductility under realistic seismic demands—capabilities that are difficult to achieve through conventional manual methods alone.

"Given the complexity of the dual SMRF–BRBF system and the critical nature of healthcare facilities, advanced connection analysis was essential to ensure reliable seismic performance and practical detailing," said Engr. Marklou Balabbo, Founder and Principal Engineer of Megaleious Builders and Associates Inc. "IDEA StatiCa allowed our team to move beyond conservative assumptions, enabling confident engineering decisions that balanced safety, constructability, and efficiency."

By leveraging **IDEA StatiCa** for advanced connection design and verification, Megaleious Builders and Associates Inc. significantly improved efficiency and design confidence across complex steel projects. **Stress-based finite element analysis reduced connection design** and checking time by **approximately 60%**, minimized redesign and coordination cycles by **up to 50%**, and enabled optimized plate, weld, and anchor **detailing—delivering 10–20%** material savings on critical connections. This approach enhanced constructability, reduced project risk, and reduced project cost, allowing the team to deliver high-quality, buildable solutions faster and more cost-effectively.

Through a digitally integrated workflow, the project team translated global analysis results into detailed, verifiable connection designs, reducing design risk, improving coordination, and supporting efficient fabrication and construction. This approach demonstrates Megaleious Builders and Associates Inc.'s commitment to applying modern engineering tools and methodologies to deliver high-quality, code-compliant solutions tailored to the demands of critical infrastructure projects.

CONCLUSION