



Engineering
&
Architecture

PORTEFOLIO

DESIGN, SHOP DRAWINGS & BIM

STRUCTURAL DESIGN . ARCHITECTURE BIM . DESIGN
REVIEW AND VALUE ENGINEERING



20
26



DESIGNING WITH VISION

STRUCTURING WITH PRECISION . .

Amman, Jordan – Tlaa al ali – Queen Rania
Street – Al-Otoom Center – 2nd Floor .

Tel: +962-6-40110768

info@mdh-jo.com

www.mdh-jo.com

Bashar Hamam
bashar.hamam@mdh-jo.com
+962-79-0908103

Yousef Ghunaim
yousef.ghunaim@mdh-jo.com
+962-79-0747139

MDH OFFICE PRINCIPLES



OUR COMMITMENT

At MDH, we are committed to transforming project delivery through innovation, technology, and collaboration—creating smarter, faster, and more connected solutions that shape the future of the built environment.



OUR VISION

To be trusted partner of choice for our clients by delivering structural and BIM solutions through collaboration, transparency, and a deep understanding of project needs.



OUR VALUES

At MDH, we create an inspiring workspace that empowers our team. We deliver every project with care and precision, embracing challenges with innovation and expertise to ensure excellent outcomes.



OUR MISSION

To redefine the way projects are imagined and delivered—through smart BIM solutions, structural excellence, and uncompromising precision that transform vision into built reality.

OUR SERVICES

DESIGN & ENGINEERING SERVICES

Structural Design Services – Providing comprehensive structural design solutions across residential, commercial, and multipurpose developments, from concept design and structural analysis through detailed design, fully coordinated 3D modeling, and construction-ready IFC documentation, with seamless integration across architectural, structural, and MEP disciplines to ensure efficiency, constructability, and value throughout the project lifecycle.



STRUCTURAL SERVICES

- **Conceptual Structural Design** – Development of efficient structural concepts aligned with project requirements.
- **Structural Analysis & Detailed Design** – Structural calculations, analysis, reports, and detailed design development.
- **Substructure & Foundation Design** – Design of foundations and substructure systems based on site and loading conditions.
- **Superstructure Design** – Efficient structural solutions for various building types and configurations.
- **Reinforced Concrete & Steel Structures** – Design of reinforced concrete and structural steel systems.
- **Cast-in-Situ, Post-Tensioned & Precast Structures** – Specialized structural solutions using cast-in-situ, post-tensioned, and precast systems.
- **High-Rise Building Design** – Smart and efficient structural solutions for high-rise residential developments.
- **Structural Optimization & IFC Delivery** – Optimized structural systems focused on safety, reliability, cost-efficiency, and constructability, from concept to final IFC delivery.

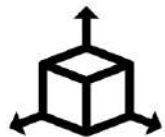


ARCHITECTURAL SERVICES

- **Conceptual Design** – Development of innovative design concepts aligned with project goals.
- **Site Analysis & Master Planning** – Site assessment and master plan development based on project requirements.
- **CGI & 3D Visualization** – High-quality renders, 3D visualizations, walkthroughs, and animations.
- **Parametric Façade Design** – Parametric solutions for façades and architectural skins.
- **Functional Analysis & Space Planning** – Zoning, space planning, and program development for efficient layouts.
- **Detailed Design & Specifications** – Detailed architectural design, documentation, materials, and specifications.
- **Interior Design, FF&E & Fit-Out** – Interior design, FF&E selection, and fit-out solutions.
- **Design Review & Coordination** – Design reviews to improve coordination, functionality, and code compliance.
- **Value Engineering & Optimization** – Optimizing design solutions, costs, constructability, and project efficiency.

OUR SERVICES

BIM & ENGINEERING SERVICES



3D MODELING & COORDINATION

Developing detailed structural and architectural models that align seamlessly throughout all project phases.



CLASH DETECTION & RISK MITIGATION

Identifying and resolving design conflicts early to reduce rework and delays.



QUANTITY TAKEOFF & BOQ

Extracting precise quantities and material data for cost estimation and resource planning.



STRUCTURAL ANALYSIS INTEGRATION

Linking BIM models with engineering calculations for safety and performance.



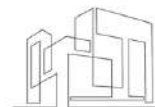
DESIGN DEVELOPMENT & DOCUMENTATION

Producing construction-ready drawings, schedules, and specifications directly from BIM models.



LOD DEVELOPMENT (100-500)

Delivering models that evolve from concept through detailed design, shop drawings, and as-built documentation.



FACADE & INTERIOR DETAILING

Modeling finishes, façades, and interiors with high accuracy and constructability in mind.



DIGITAL HANDOVER

Providing final models in IFC/OpenBIM formats, enabling smooth transition into facility management.

OUR SERVICES

DESIGN MANAGEMENT SERVICES



MULTIDISCIPLINARY COORDINATION

Ensuring seamless integration of architecture, structure, MEP, and other specialist inputs into a unified design package.



RESOURCE & SCHEDULE PLANNING

Managing design timelines, deliverables, and staff allocation to achieve milestones on time and within scope.



STAKEHOLDER MANAGEMENT

Acting as the central link between clients, consultants, contractors, and authorities to facilitate clear communication and informed decision-making.



BIM-ENABLED WORKFLOW

Utilizing BIM platforms and Common Data Environments (CDE) for real-time collaboration, clash detection, and version control.



QUALITY ASSURANCE & COMPLIANCE

Overseeing design reviews, technical audits, and adherence to international codes, standards, and regulatory requirements.



CHANGE MANAGEMENT

Controlling design modifications, evaluating their impact, and implementing solutions with minimal disruption.

OUR CLIENTS



مجموعة بن لادن السعودية
SAUDI BINLADIN GROUP



هيئة تطوير منطقة المدينة المنورة
Al Madinah Region Development Authority



SOFTWARE & TECHNOLOGIES

We leverage industry-leading software and technologies to deliver innovative, accurate, and efficient design solutions across architecture, structure, and construction.


CSI

(ETABS, SAP2000 AND SAFE)

ETABS®

ETABS

SAP2000

SAP2000



SAFE


**STRUCTURAL
ANALYSIS & DESIGN**

 STAAD.Pro, Tekla Structural
Designer, RAM Concept,
IDEA StatiCa


STAAD.Pro®


 Tekla
Structural
Designer

**RAM
CONCEPT**

RAM Concept

**IDEA
StatiCa®**

IDEA StatiCa


AUTODESK

 (Revit, AutoCAD, Navis,
3ds Max, Civil 3D)


Revit



AutoCAD



Navisworks



3ds Max



Civil 3D


ADOBE

(Photoshop, InDesign)



Photoshop



InDesign


RENDER ENGINES

(Enscape, D5, Corona)



Enscape



D5 Render



Corona

OUR STAKEHOLDERS

Our work involves collaboration with a variety of stakeholders, each playing a key role in the project lifecycle . From consultants and architects to contractors and developers, we ensure effective communication, integration, and innovation across all stages from concept to completion.

**01****ARCHITECTURAL
FIRMS**

- Design 3D modelling, visualization, renders, and animation.

**02****DEVELOPERS**

- Conceptual design, detailed design, modelling, visualization, digital integration for operations and maintenance.

**03****CONSULTANTS**

- Visualization, data analysis, integration, and digital workflow.

**04****CONTRACTORS**

- Pre-construction phase: including BIM management coordination and clash detections.
- Shop drawings, as-built drawings ,time & cost management .

OUR TEAM

With a growing team of +30 engineers, architects, and BIM specialists, we bring together creativity and precision under one roof. We are agile, collaborative, and dedicated to delivering projects that merge innovation with technical excellence.



Structural Engineering

Delivering safe, efficient, and buildable solutions that form the backbone of every project.



Architecture & Design

Transforming ideas into inspiring spaces through concept design, interiors, and visualization.



Design Management

We orchestrate people, processes, and resources into one seamless workflow. With clear communication and agile coordination, every project moves from concept to completion with precision and confidence.



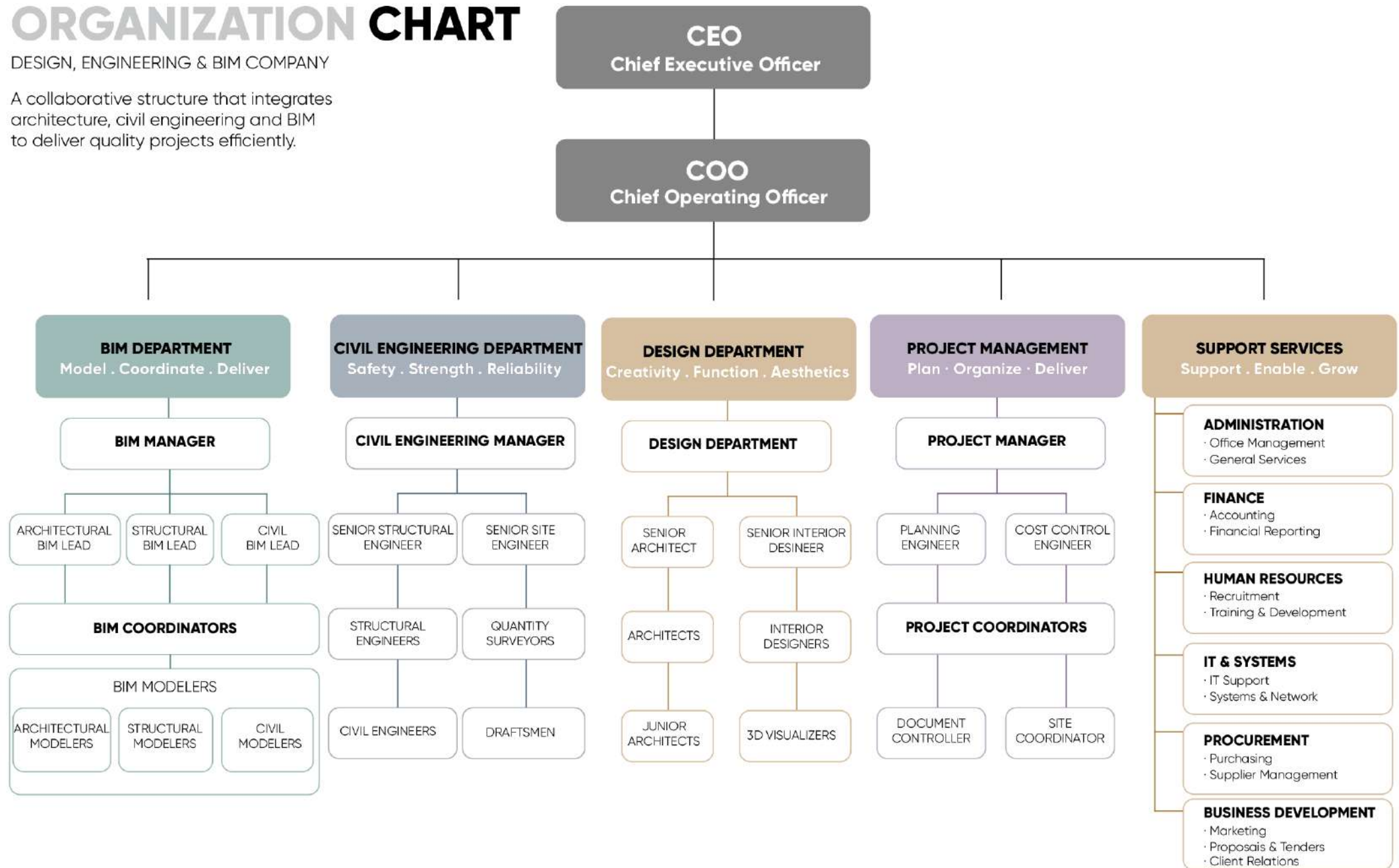
BIM & Digital Delivery

We transform ideas into living, data-driven models that predict challenges before they happen. From virtual sequencing to digital twins, every project is delivered smarter, faster, and future-ready.

ORGANIZATION CHART

DESIGN, ENGINEERING & BIM COMPANY

A collaborative structure that integrates architecture, civil engineering and BIM to deliver quality projects efficiently.



PROJECT LIST

BIM PROJECT

 Project Name	 Location	 Year	 Scope of Work
1 MASEEL PROJECT	Riyadh, KSA	2026	BIM Structural Modeling LOD 350–400, Shop Drawings & Value Engineering
2 KINGDOM TOWER	Jeddah, KSA	2026	BIM Modeling LOD 300–400, Shop Drawings, Coordination & Asset Register
3 ALTa'awon Project	Dammam, KSA	2026	BIM Modeling LOD 400, Shop Drawings & Reinforcement Drawings
4 KEC	Madinah, KSA	2025	BIM Modeling LOD 400, Shop Drawings & Reinforcement Drawings
5 Domat Al Jandal	Domat Al Jandal , KSA	2025	BIM Modeling LOD 100–300, Drawing Extraction, Render Shots & Clash Detection.
6 LA VIE YARD COMMERCIAL	Riyadh, KSA	2025	BIM Modeling LOD 300–500, Shop Drawings, Clash Detection & Blockwork Detailing.
7 Al Nahda Entertainment Complex	Riyadh, KSA	2025	BIM Modeling LOD 400–500, Shop Drawings, As-Built & Coordination
8 Diriyah Ritz Carlton Residence	Diriyah, Riyadh, KSA	2024	BIM Modeling LOD 300–500, Shop Drawings As-Built + BBS
9 Diriyah Square Project	Diriyah, Riyadh, KSA	2024	BIM Modeling LOD 300–500, Shop Drawings, As-Built
10 Sindalah	Neom, KSA	2022	BIM Modeling LOD 400, Shop Drawings, Value
11 Misk Schools	Riyadh, KSA	2021	BIM Modeling LOD 400–500, Shop Drawings
12 SEVEN - Tabuk	Tabuk, KSA	2021	BIM Modeling LOD 400, Shop Drawings, Value
13 Shura Resorts	Shura, KSA	2021	BIM Modeling LOD 400, Shop Drawings

"Due to a non-disclosure agreements this document does not include all data about the undertaken projects."

PROJECT LIST

BIM PROJECT

 Project Name	 Location	 Year	 Scope of Work
14 Bujairi Terrace	Doha, Qatar	2021	BIM Modeling LOD (400+500), Shop Drawings, Value
15 Black Gold Museum	Riyadh, KSA	2021	BIM Modeling LOD 500, As-Built Extraction
16 Tahliya Gate Towers	Jeddah, KSA	2020	BIM Modeling LOD 400, Shop Drawings
17 Almurjan Hospital	Jeddah, KSA	2020	BIM Modeling LOD 400, Shop Drawings, BOQ
18 Physicians Hospital	Jeddah, KSA	2020	BIM Modeling LOD 300, All Disciplines
19 Alfulwa Community	Ehsaa, KSA	2020	BIM Modeling LOD 350, IFC Extraction, Value

PROJECT LIST

DESIGN PROJECT

 Project Name	 Location	 Year	 Scope of Work
1 Marsa Zayed Project	Aqaba ,Jordan	2026	Structural design and ETABS calculation models
2 MASEEL PROJECT	Riyadh, KSA	2026	Structural design and ETABS calculation models
3 Cordilla Steet Project	South Brisbane /AUS	2026	Structural design and ETABS calculation models
4 MISK District 5 project	Riyadh, KSA	2025	Structural Design & BIM IFC LOD 350
5 ARJAN RESIDENTIAL	Dubai, UAE	2024	Structural Design LOD 300
6 M-TRAVELER TOWER	Riyadh, KSA	2023	Structural Design LOD(350), Shop Drawings LOD (400)
7 YAS GARDENS PROJECT	Abu Dhabi, UAE	2023	Structural Design & BIM IFC LOD 350
8 30 first avenue, surfers' paradise	Australia	2022	Structural design and ETABS calculation models
9 19 first Avenue	Australia	2022	Structural design and ETABS calculation models
10 Burly Esplanade Tower	Australia	2022	Structural FEM Modeling, Wind Tunnel & CFD
11 Vista Street Tower	Surfers Paradise, AUS	2022	Structural FEM Modeling, Wind Tunnel & CFD
12 Cypress Towers (1&2)	Australia	2022	Structural FEM Modeling, Wind Tunnel & CFD
13 Ahmad AlMusa Villa	Riyadh, KSA	2021	Structural Design
14 Crown Plaza Hotel	Petra, Jordan	2021	Re-design & BIM Modeling LOD 400, SD
15 Residential Complex	Dammam, KSA	2021	Conceptual Design

"Due to a non-disclosure agreements this document does not include all data about the undertaken projects."

PROJECT LIST

DESIGN PROJECT

 Project Name	 Location	 Year	 Scope of Work
16 Al-Ahlyia and al-motran Private School	Amman, Jordan	2021	Structural design and ETABS calculation models
17 Madaba Chalets	Madaba, Jordan	2020	Architectural & Structural Design
18 Junadi Villa	Fuhais, Jordan	2020	Architectural & Structural Design
19 Abdulrazeq Villa	AlSalt, Jordan	2020	Architectural & Structural Design
20 41 Terry Road Project	Australia	2020	Structural design and ETABS calculation models
21 Al-Sulaiman Complex	KSA	2020	Structural design and ETABS calculation models
22 Warada on Walker Street	Australia	2019	Structural design and ETABS calculation models

BIM PROJECTS

MASEEL PROJECT

A large mixed-use development comprising 20 buildings ranging from 4 to 10 stories, with two common basement levels. The scope includes a comprehensive structural design review and value engineering assessment in accordance with SBC and applicable international standards, along with detailed design amendments and structural shop drawings developed using BIM LOD 350 and LOD 400 requirements.



LOCATION
Riyadh, KSA



YEAR
2026



MASEEL PROJECT

For this project MDH delivered

STRUCTURAL DESIGN REVIEW & VALUE ENGINEERING

Optimization of structural systems for efficiency and constructability.

STRUCTURAL DESIGN AMENDMENTS

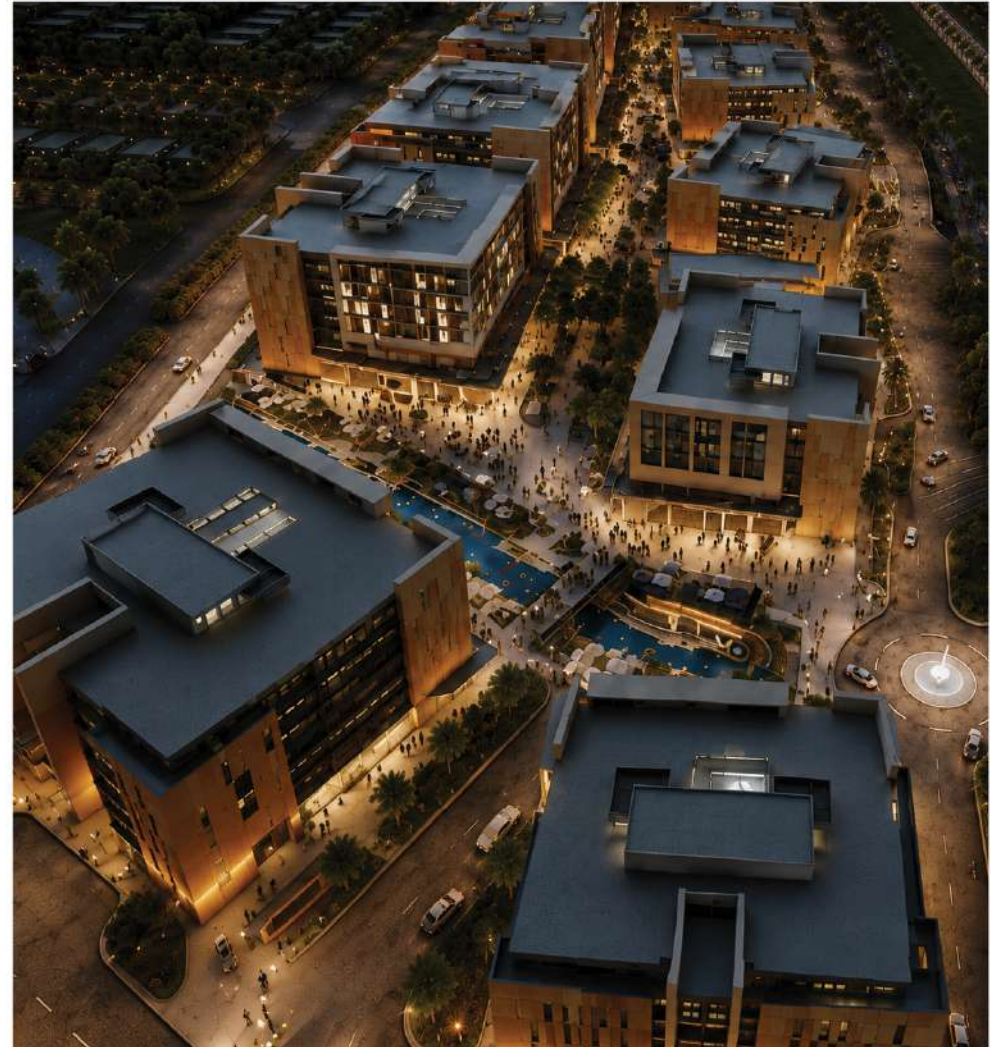
Technical modifications to enhance structural performance and coordination.

BIM STRUCTURAL MODELING LOD 350 & LOD 400

Development of coordinated, detailed structural models.

STRUCTURAL SHOP DRAWINGS

Preparation of detailed construction-ready documentation.



KINGDOM TOWER PROJECT

A landmark mixed-use supertall tower in Jeddah, Saudi Arabia, designed to exceed 1,000 meters in height. The project combines residential, hospitality, and commercial spaces, with a scope focused on detailed BIM modeling, shop drawings, and asset registration.



LOCATION
Jeddah, KSA



YEAR
2026



KINGDOM TOWER PROJECT

For this project MDH delivered

BIM Modeling – LOD 300–400

Development of detailed BIM models at LOD 300–400, supporting accurate design coordination, documentation, and construction requirements for the high-rise project.

Shop Drawings

Preparation of detailed shop drawings to support construction execution ensuring accurate detailing, coordination, and compliance with project requirements.

Asset Register

Development and management of a comprehensive asset register, providing organized asset information to support project documentation, identification, and future facility management



AL TA'AWON (Water Park)

CLIENT: SEVEN (SAUDI ENTERTAINMENT VENTURES)

A water park development in Dammam, Saudi Arabia, comprising multiple dedicated zones designed to create an engaging and dynamic recreational environment. The project scope includes detailed BIM modeling at LOD 400 and the preparation of construction-level shop drawings to support accurate coordination and execution



LOCATION
Dammam, KSA



YEAR
2026



AL TA'AWON (Water Park)

CLIENT: SEVEN (SAUDI ENTERTAINMENT VENTURES)

For this project MDH delivered

Modeling – LOD 400

Development of detailed BIM models at LOD 400, providing accurate construction-level information and supporting coordination across the Water Park zones.

Shop Drawings

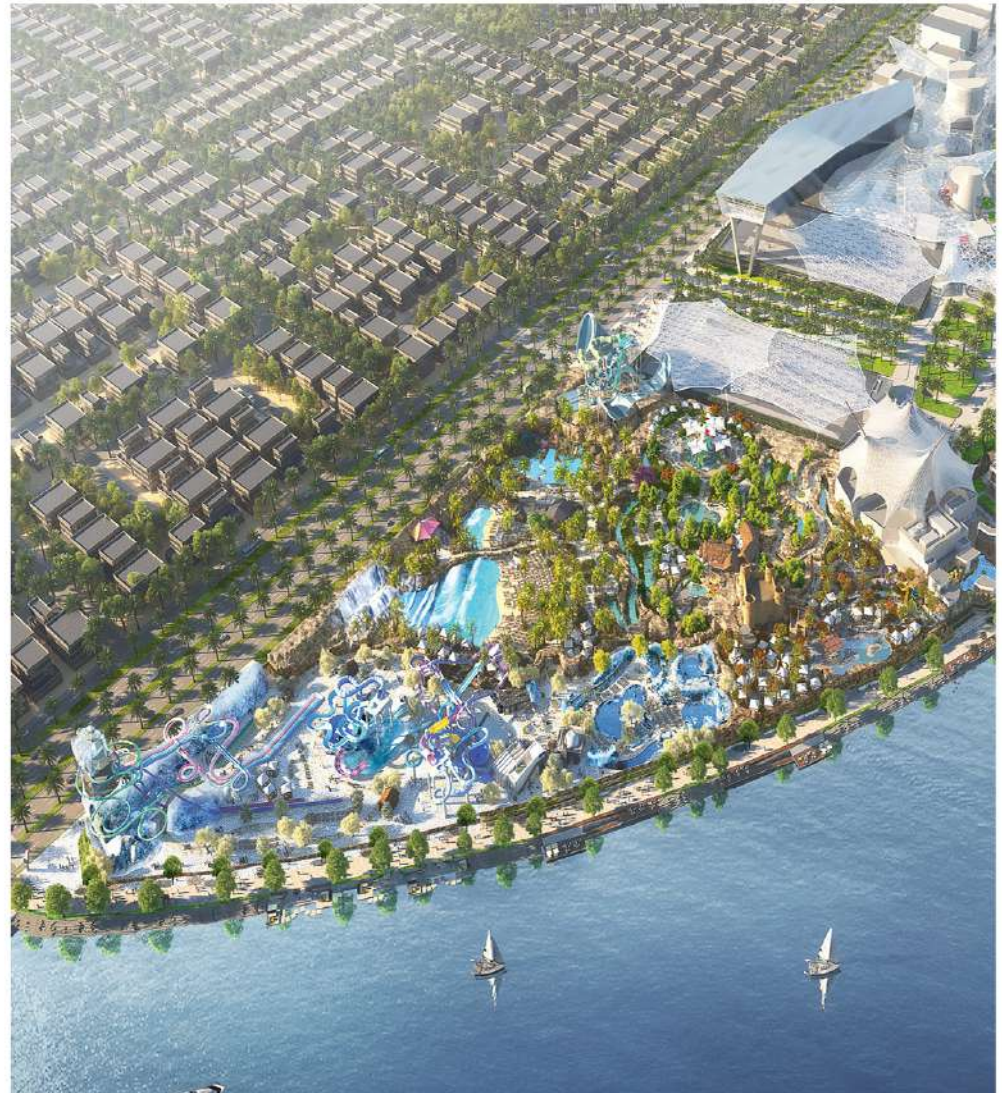
Preparation of detailed shop drawings to support construction and installation, including:

1. General Arrangement Drawings

Detailed drawings defining the overall arrangement, dimensions, layouts, and construction requirements.

2. Reinforcement Drawings

Detailed reinforcement drawings showing bar layouts, sizes, spacing, quantities, and required construction details



Knowledge Economic City (KEC)

A landmark urban development in Madinah, designed as a knowledge- and technology-driven destination that integrates residential, hospitality, retail, healthcare, education, and entertainment uses. Strategically connected to key city routes, Al-Masjid an-Nabawi, and the Haramain High-Speed Railway, the development aims to create a vibrant and integrated environment serving residents, visitors, and investors.



LOCATION
Madinah, KSA



YEAR
2025

For this project MDH delivered

Modeling – LOD 400

Development of detailed BIM models at LOD 400, providing accurate construction-level information and supporting coordination across the Water Park zones.

Shop Drawings

Preparation of detailed shop drawings to support construction and installation, including:

1. General Arrangement Drawings

Detailed drawings defining the overall arrangement, dimensions, layouts, and construction requirements.

2. Reinforcement Drawings

Detailed reinforcement drawings showing bar layouts, sizes, spacing, quantities, and required construction details



Domat Al Jandal

A comprehensive architectural development in Dumah Al Jandal, Saudi Arabia, supported by BIM-based design coordination and visualization. The project focused on developing a cohesive and well-coordinated design, with detailed modeling, drawing production, clash review, and realistic visual outputs supporting the overall design process.



LOCATION

Domat Al Jandal, KSA



YEAR

2025

For this project MDH delivered

BIM MODELING (LOD 100-300)

Development of coordinated BIM models from concept (LOD 100) through schematic and design development (LOD 300).

EXTRACT DRAWINGS FROM 11 MODELS AS SD & DD

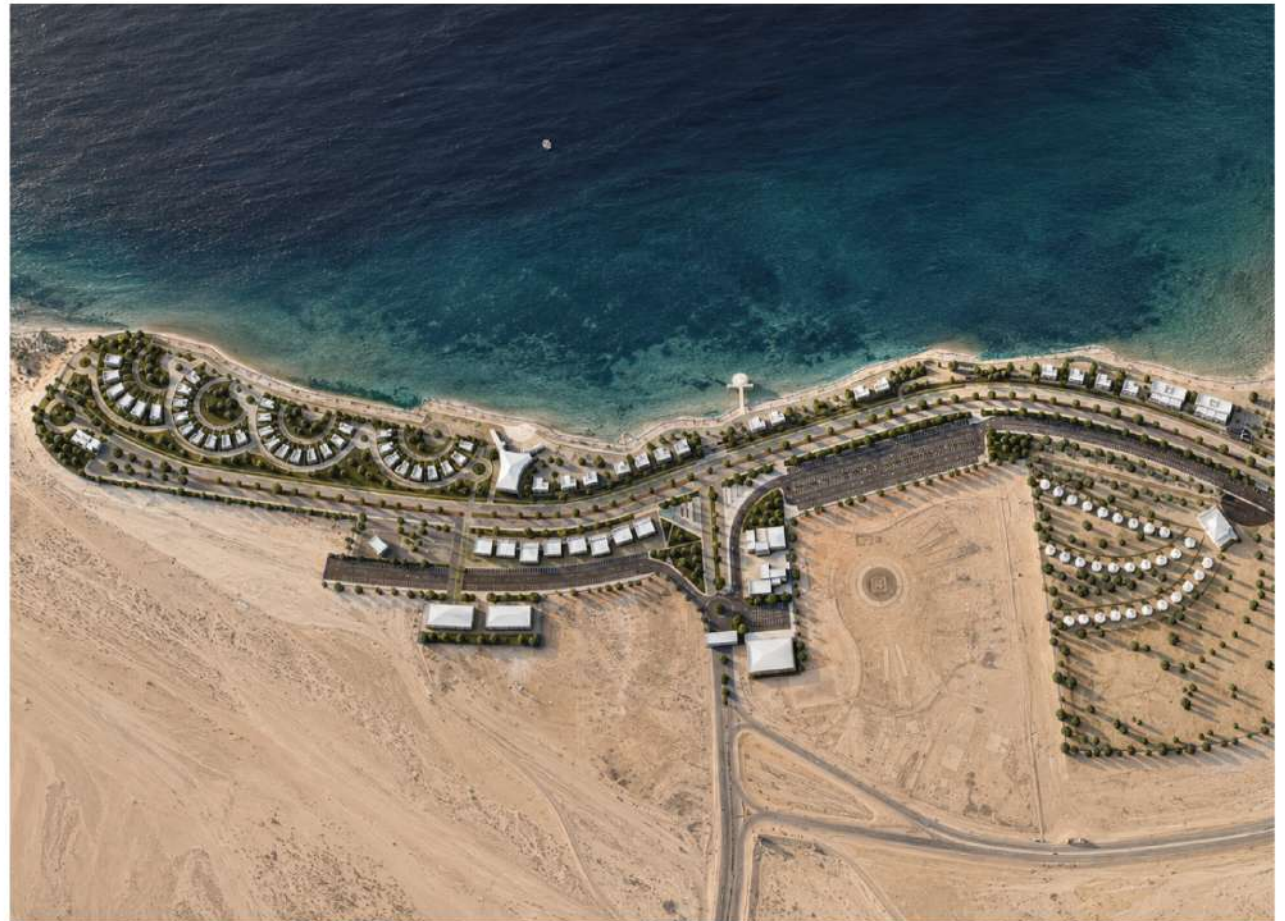
Extraction of Shop Drawings (SD) and Design Development Drawings (DD) from 11 coordinated BIM models.

RENDER SHOTS

Production of high-quality exterior render shots to visualize the design intent and project atmosphere.

CLASH DETECTION

Comprehensive clash detection and coordination to identify and resolve interferences across disciplines.



LA VIE YARD COMMERCIAL

CLIENT: ZOOD

La Vie Yard Commercial is a commercial development focused on delivering coordinated BIM-based construction documentation, from detailed modeling through shop drawings, clash detection, and blockwork detailing. The scope ensures accurate multidisciplinary coordination, constructability, and high-quality construction-ready deliverables across LOD 300–500.



LOCATION
Riyadh, KSA



YEAR
2025



LA VIE YARD COMMERCIAL

CLIENT: ZOOD

For this project MDH delivered

BIM Modeling – LOD 300–500

Development of detailed BIM models across design and construction stages.

Structural Shop Drawings

Preparation of coordinated, construction-ready shop drawings.

Clash Detection & Coordination

Identification and resolution of multidisciplinary design conflicts.

Blockwork Detailing

Detailed blockwork layouts and construction details for accurate execution.



Al Nahda Entertainment Complex

EXIT 15, RIYADH – SAUDI ARABIA

CLIENT: SAUDI ENTERTAINMENT VENTURES – SEVEN

Engineering design and BIM development of concrete retaining walls and Mechanically Stabilized Earth (MSE) walls, covering design, construction documentation, BIM coordination, quantity take-offs, as-built verification, and digital handover.



LOCATION
Riyadh, KSA



YEAR
2025



Al Nahda Entertainment Complex

EXIT 15, RIYADH – SAUDI ARABIA

CLIENT: SAUDI ENTERTAINMENT VENTURES – SEVEN

For this project MDH delivered

Engineering Design

Detailed design and structural analysis of concrete retaining and MSE walls based on site, geotechnical, loading, and code requirements, including design optimization and calculation reports.

BIM Modeling (LOD 400)

Coordinated BIM modeling of retaining walls, MSE walls, landscape walls, and geogrid elements for construction and quantity take-offs.

Shop Drawings

Preparation of LOD 400 general arrangement and reinforce concrete drawings including dimensions, levels, reinforcement details, construction joints, and construction requirements.

BIM Coordination & Clash Detection

Multidisciplinary coordination and clash detection using Navisworks, including reporting and clash resolution.

As-Built BIM (LOD 500)

Multidisciplinary coordination and clash detection using Navisworks, including coordination reports, NWC/NWD files, coordination logs, and clash resolution.

Digital Handover & AIM

Development of AIM with asset tagging, FM data, O&M information, attributes, and document hyperlinks, integrated with BIM and ACC.



THE RITZ-CARLTON RESIDENCES

CLIENT: DIRIYAH COMPANY



LOCATION

Diriyah, Riyadh, KSA



YEAR

2024

A multi-use entertainment development comprising retail, leisure, and entertainment facilities. The scope includes the preparation of fully detailed structural shop drawings covering construction details, reinforcement, connections, and coordination requirements, along with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate construction documentation, effective multidisciplinary coordination, and reliable record models to support facility management and future maintenance.



THE RITZ-CARLTON RESIDENCES

CLIENT: DIRIYAH COMPANY

For this project MDH delivered

LOD Upgrade (400-500)

Detailed construction and record models supporting project delivery and facility management.

Structural Shop Drawings

Detailed construction drawings covering reinforcement, connections, and structural details.

As-Built Documentation

Comprehensive record documentation reflecting the final constructed works.



DIRIYAH SQUARE PROJECT

With **Salini Saudi Arabia**

CLIENT: DIRIYAH COMPANY



LOCATION

Diriyah, Riyadh, KSA



YEAR

2024

An 8-tower development in Jeddah, KSA, with each tower comprising 16 stories. The scope includes the preparation of fully detailed structural shop drawings covering construction details, reinforcement, connections, and coordination requirements, along with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate construction documentation, effective multidisciplinary coordination, and reliable record models for future facility management and maintenance.



DIRIYAH SQUARE PROJECT

CLIENT: DIRIYAH COMPANY



LOCATION
Diriyah, Riyadh, KSA



YEAR
2024

For this project MDH delivered

LOD Upgrade (300–500)

Upgraded coordinated BIM models from LOD 300 to LOD 500.

Shop Drawings

Generated fully coordinated, model-based shop drawings.
As-Built Documentation – Prepared accurate as-built models and documentation reflecting site execution.

Quality & Coordination

Ensured design integrity, coordination accuracy, and construction-ready deliverables.



SINDALAH PROJECT

CLIENT: NEOM

A large-scale development comprising approximately 55 steel temporary buildings supporting a major NEOM development project. The scope includes comprehensive BIM support and multidisciplinary clash detection, with coordinated models and detailed reports developed up to BIM LOD 400 requirements, ensuring constructability and effective coordination across the project.



LOCATION
NEOM, Red Sea (KSA)



YEAR
2022



SINDALAH PROJECT

CLIENT: NEOM

For this project MDH delivered

Structural BIM (LOD 400)

Coordinated concrete and steel models, including foundations, slabs, walls, frames, connections, and reinforcement where required.

Shop Drawings & Schedules

General arrangement drawings, rebar shop drawings with bar schedules, and steel fabrication drawings.

Coordination & QA

Clash detection, penetration and embed coordination, tolerance checks, and model audits to reduce RFIs and rework.

Value Engineering

Structural optimization through efficient systems, member sizing, rebar rationalization, prefabrication, and improved constructability.



MISK SCHOOL

CLIENT: MISK CITY



LOCATION
Riyadh, KSA



YEAR
2022

A school development comprising 10 buildings in Al-Riyadh, KSA. The scope includes the preparation of fully detailed structural shop drawings, covering construction details, reinforcement, connections, and coordination requirements, along with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate construction documentation, multidisciplinary coordination, and reliable record models for facility management and future maintenance.



MISK SCHOOL

CLIENT: MISK CITY

For this project MDH delivered

BIM Modeling – LOD 400 & LOD 500

Detailed construction and as-built models for accurate documentation and coordination.

Structural Shop Drawings

Detailed drawings covering reinforcement, connections, construction details, and coordination requirements.

As-Built Documentation

Accurate record models and documentation reflecting the final constructed works.

Multidisciplinary Coordination

Coordinated structural deliverables supporting construction, facility management, and future maintenance.



SEVEN PROJECT



LOCATION
Tabuk, KSA



YEAR
2021

CLIENT: SEVEN (SAUDI ENTERTAINMENT VENTURES)

One of seven major entertainment projects in Tabuk, KSA, comprising a large complex of five mega buildings with one common basement level. The scope includes the preparation of fully detailed structural and architectural shop drawings, covering construction details, reinforcement, connections, and multidisciplinary coordination, together with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 requirements, ensuring accurate construction documentation, effective coordination, and reliable record models for future facility management and maintenance.



SEVEN PROJECT

CLIENT: SEVEN (SAUDI ENTERTAINMENT VENTURES)

For this project MDH delivered

LOD Framework

Implemented the full LOD 100–500 workflow:

- LOD 100 – Concept Design
- LOD 200 – Schematic Design
- LOD 300 – Detailed Design
- LOD 350 – IFC / Coordination
- LOD 400 – Shop Drawings & Fabrication
- LOD 500 – As-Built Documentation

BIM Modeling Approach

Developed coordinated, data-rich 3D BIM models with structured quality control at every project stage, while maintaining readiness for future 4D (Scheduling) and 5D (Cost Management) integration.

BIM Coordination

Performed multidisciplinary coordination and clash detection to minimize design conflicts, reduce rework, and improve construction efficiency.

BIM Standards

Applied industry-recognized BIM standards, workflows, and best practices to ensure consistency and effective collaboration among consultants, contractors, and project stakeholders.



SHURA RESORTS

CLIENT: RED SEA GLOBAL



LOCATION

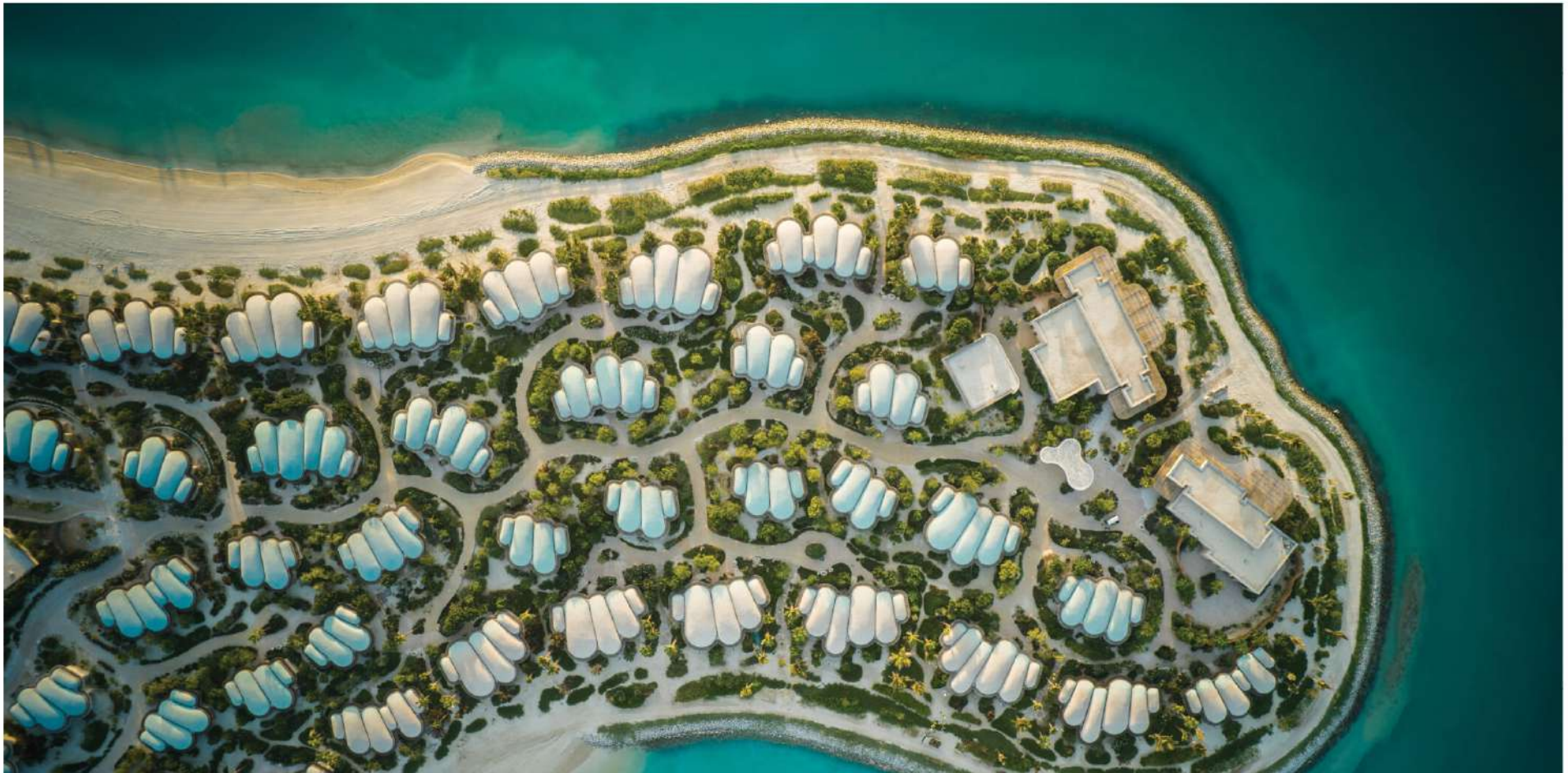
The Red Sea, KSA



YEAR

2021

HE2, HC1, and HC3 are major entertainment developments in the Red Sea, KSA, comprising approximately 55 buildings. The scope includes the preparation of detailed structural shop drawings and fabrication drawings for aluminum façade systems, developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate detailing, fabrication, installation, and multidisciplinary coordination.



SHURA RESORTS

CLIENT: RED SEA GLOBAL

For this project MDH delivered

BIM Modeling (LOD 400)

Coordinated architectural and structural models developed to construction and fabrication level.

Model-Based Documentation

Plans, sections, elevations, and shop drawings generated directly from the BIM model.

Clash Detection & QA

Coordination using Navisworks, BCF issue tracking, and quality checks to minimize clashes and RFIs.

Value Engineering

Design optimization to improve constructability while reducing cost and material usage.

As-Built Models

Updated BIM models reflecting site changes for project handover and FM integration.

BIM Management

BEP, CDE, ISO 19650-aligned workflows, version control, and coordinated project deliverables.



BUJAIRI TERRACE

CLIENT: DIRIYAH GATE DEVELOPMENT



LOCATION
Diriyah, Riyadh



YEAR
2022

A multi-use entertainment development comprising retail, leisure, and entertainment facilities. The scope includes the preparation of fully detailed structural shop drawings covering construction details, reinforcement, connections, and coordination requirements, together with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate construction documentation, multidisciplinary coordination, and reliable record models for facility management and future maintenance.



BUJAIRI TERRACE

CLIENT: DIRIYAH GATE DEVELOPMENT

For this project MDH delivered

BIM Modeling – LOD 400 & LOD 500

Detailed construction and as-built models for accurate documentation and coordination.

Structural Shop Drawings

Detailed drawings covering reinforcement, connections, construction details, and coordination requirements.

As-Built Documentation

Accurate record models and documentation reflecting the final constructed works.

Multidisciplinary Coordination

Coordinated structural deliverables supporting construction, facility management, and future maintenance.



BLACK GOLD MUSEUM

CLIENT: MINISTRY OF CULTURE

A destination museum interpreting the region's oil heritage and energy future through immersive, multimedia galleries set within geology-inspired architecture. Precision-controlled environments and a high-performance envelope support world-class exhibitions, education spaces, and visitor amenities.



LOCATION
Riyadh, KSA



YEAR
2021



BLACK GOLD MUSEUM

CLIENT: MINISTRY OF CULTURE

For this project MDH delivered

LOD 500 As-Installed Model (Arch & Strc)

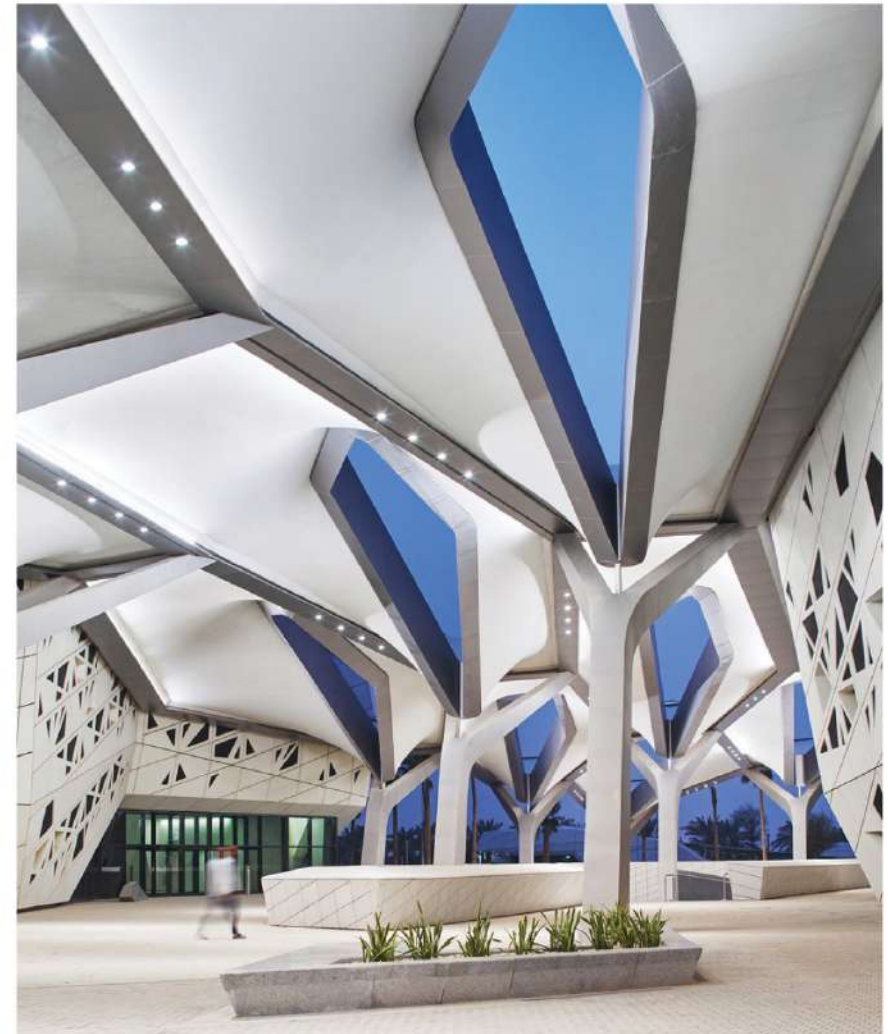
Field-verified architectural and structural geometry: levels/grids, member sizes, connections, penetrations/ embeds; documented tolerances.

As-Built Extraction

Updated plans, sections, elevations, details, and schedules generated from the verified model.

Clash Detection & Coordination

Identification and resolution of conflicts between existing and proposed elements.



TAHLEYA GATE TOWERS

CLIENT: SONDOS REAL ESTATE



LOCATION
Jeddah, KSA



YEAR
2020

An 8-tower development in Jeddah, KSA, with each tower comprising 16 stories. The scope includes the preparation of fully detailed structural shop drawings covering construction details, reinforcement, connections, and coordination requirements, along with comprehensive as-built documentation reflecting the final constructed works. All deliverables are developed in accordance with BIM LOD 400 and LOD 500 requirements, ensuring accurate construction documentation, effective multidisciplinary coordination, and reliable record models for future facility management and maintenance.



TAHLEYA GATE TOWERS

CLIENT: SONDOS REAL ESTATE

For this project MDH delivered

BIM Modeling (LOD 400)

Coordinated, construction-ready models across disciplines (Arch/Strc/MEP) aligned to your LOD pathway.

Shop Drawings Extraction

Model-driven sheets for all disciplines to keep geometry and documentation fully consistent.

Clash Detection & Coordination

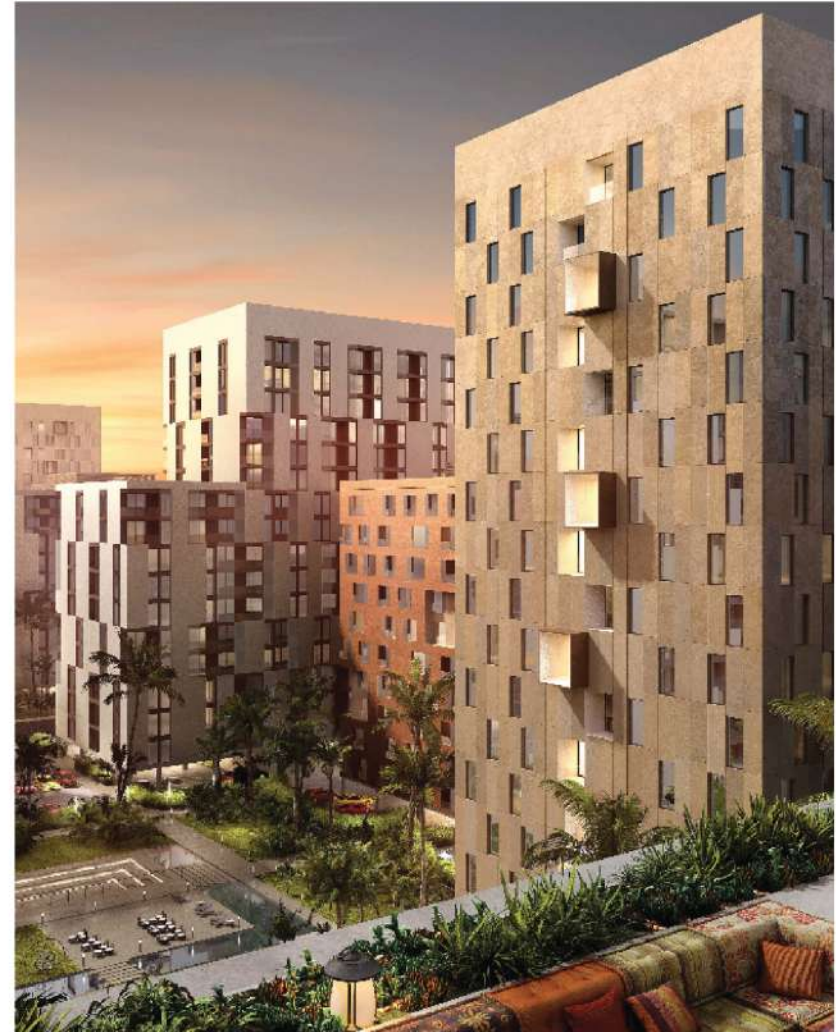
Structured coordination to reduce cost/time during construction (Navisworks-based workflow).

BIM Implementation & Standards

Workflows guided by standards and best practice; clear roles and naming inside the CDE.

LOD Framework

Delivery aligned to your published levels (LOD 100-500 reference, with this project delivered to LOD 400).



AL MURJAN HOSPITAL

CLIENT: ALMURJAN GROUP

Architectural 3D Revit modeling up to BIM LOD 300 for a high-rise hospital project, supporting multidisciplinary coordination and comprehensive clash detection to identify and resolve design conflicts prior to construction.



LOCATION
Jeddah, KSA



YEAR
2020



AL MURJAN HOSPITAL

CLIENT: ALMURJAN GROUP

For this project MDH delivered

BIM Modeling (LOD 300)

Coordinated, construction-ready models for Architecture, Structure, MEP, and Landscape.

Shop Drawings Extraction

Model-driven plans, sections, details, and discipline sheets generated from the federated BIM.

BOQ & Quantity Take-offs

Model-based QTO/BOQ to support estimating, procurement, and cost control.

BIM Coordination & Clash Detection

Structured multidisciplinary coordination to cut rework and time on site.

BIM Implementation & Governance

Workflows aligned to standards and best practice (BEP/CDE, naming & approvals).



PHYSICIANS HOSPITAL

CLIENT: SEHATCOM

A new 200-bed, eight-floor private hospital on King Abdulaziz Road in north Jeddah, developed by Al Murjan Group with Mediclinic as operator. Comprehensive inpatient and outpatient services across major specialties, aligned with Saudi Vision 2030 healthcare objectives.



LOCATION
Jeddah, KSA



YEAR
2020

For this project MDH delivered

BIM Modeling (LOD 300)

Multidisciplinary architectural, structural, and MEP models developed to the Detailed Design level (federated and coordinated).

BIM Coordination & Clash Detection

Structured multidisciplinary coordination to cut rework and time on site.



ALFULWA COMMUNITY

CLIENT: ROSHN



LOCATION
Ehsaa, KSA



YEAR
2020

BIM Modeling & IFC Documentation – Development of a coordinated BIM model to LOD 350 and extraction of accurate, construction-ready IFC drawings, ensuring design coordination, documentation accuracy, and seamless support throughout the construction process for the Al Fulwa Community Center in KSA.



DESIGN PROJECTS

MARSA ZAYED

- A four-tower development in Al-Aqaba, Jordan, with each tower comprising 41 stories. The scope includes developing the structural concept design and preparing the RFP for wind tunnel testing. The proposed structural system was developed using 3D ETABS models to effectively resist high seismic lateral loads while providing an optimized structural solution that supports the architectural requirements.

For this project MDH delivered:

Structural Concept Design

3D ETABS Modeling & Seismic Analysis

Wind Tunnel Testing RFP Preparation

Lateral System Development & Optimization

Architectural-Structural Integration



PROJECT TYPE

Mixed-Use Development



LOCATION

Aqaba ,Jordan



YEAR

2026



MASEEL PROJECT

- A large mixed-use development comprising 20 buildings ranging from 4 to 10 stories, with two common basement levels. The scope includes a comprehensive structural design review and value engineering assessment in accordance with SBC and applicable international standards, along with detailed design amendments and structural shop drawings developed using BIM LOD 350 and LOD 400 requirements.

For this project MDH delivered:

Structural Design Review & Value Engineering – Optimization of structural systems for efficiency and constructability.

Structural Design Amendments – Technical modifications to enhance structural performance and coordination.

BIM Structural Modeling – LOD 350 & LOD 400 – Development of coordinated, detailed structural models.

Structural Shop Drawings – Preparation of detailed construction-ready documentation.



PROJECT TYPE

High-Rise Residential Development



LOCATION

Riyadh, KSA



YEAR

2026



CORDILLA STREET

- A 30-story high-rise building in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads. The main challenge was developing an efficient lateral structural system using inclined perimeter bracing, addressing the building's slender proportions and increasing the structural lever arm to enhance overall lateral stability.

For this project MDH delivered:

Structural Analysis & Stability Assessment

ETABS 3D Modeling – Wind & Seismic Analysis

Wind Load Assessment & Wind Tunnel Testing

Australian Standards Compliance

Lateral System Optimization

Inclined Perimeter Bracing Design



PROJECT TYPE

High-Rise Residential Development



LOCATION

South Brisbane / AUS



YEAR

2026



MISK District

CLIENT: Mohammed bin Salman Nonprofit City

- A residential prototype villa development located in Al-Riyadh, KSA, comprising 460 villas across 9 different unit types, supported by a mosque, kindergarten, and community center. The scope includes complete structural design services from the concept stage through to IFC, along with BIM modeling to LOD 350.

For this project MDH delivered:

Complete Structural Design – From concept development through final IFC delivery.

BIM Structural Modeling – LOD 350 – Development of coordinated structural models for all villa types.

Prototype & Multi-Type Design – Structural solutions for 460 villas across 9 unit types, including supporting community facilities.



PROJECT TYPE
Residential District



LOCATION
Riyadh, KSA



YEAR
2025



ARJAN RESIDENTIAL TOWER

CLIENT: AL ZAROONI EMIRATES NVESTMENTS

- A high-rise mixed-use tower located in Dubai, UAE, comprising 37 stories. The scope includes comprehensive structural design services from the concept stage through design development, including the development and optimization of the structural system to effectively resist seismic and wind lateral loads in accordance with ASCE standards and Dubai design requirements.

For this project MDH delivered:

Structural Concept Design – Development of the initial structural system.

Detailed Structural Design – Design development from concept through detailed stages.

Seismic & Wind Analysis – Assessment of lateral loads and structural response.

Structural System Optimization – Optimization for efficiency, stability, and constructability.

Code Compliance – Design in accordance with ASCE standards and Dubai requirements.



PROJECT TYPE
High-Rise Residential



LOCATION
UAE, Dubai



YEAR
2024



M-TRAVELER TOWER PROJECT

CLIENT: NASER ABDULRAZAQ YOUSEF AL-NFESI

- A 15-story residential building located in Al-Riyadh, KSA. The scope includes the preparation of a complete IFC design package and technical site support throughout the construction stage, in accordance with SBC, ACI, and other applicable international standards. The structural design and drawings were developed using BIM methodology to meet LOD 350 requirements.

For this project MDH delivered:

Complete IFC Design Package – Full structural documentation for construction.

BIM Structural Modeling – LOD 350 – Development of coordinated structural models and drawings.

Technical Site Support – Structural support and design coordination throughout construction.

Code Compliance – Design in accordance with SBC, ACI, and applicable international standards.



PROJECT TYPE
High-Rise Residential



LOCATION
Riyadh, KSA



YEAR
2023



YAS GARDENS PROJECT

CLIENT: Fazaa Group

- A mall development located in Abu Dhabi, UAE, with the structural design developed up to the schematic design stage. The key feature of the project is its steel structural system, designed to accommodate long spans of up to 20 meters, providing the required architectural flexibility and open spaces.

For this project MDH delivered:

Structural Schematic Design – Development of the structural system through schematic design stage.

Steel Structure Design – Development of an efficient steel structural system.

Long-Span Structural Solutions – Design solutions accommodating spans up to 20m to support flexible, column-free architectural spaces.



PROJECT TYPE

Commercial & Mall Development



LOCATION

Yas Island, Abu Dhabi, UAE.



YEAR

2023



30 First Avenue, Surfers' Paradise

- A 33-storey high-rise building in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment –

Structural design development and assessment of the 33-storey high-rise residential building.

ETABS 3D Modeling – Development of detailed 3D structural calculation models to support structural analysis and design.

Wind Tunnel Testing & Load Assessment –

Assessment and validation of wind loads for structural design.



PROJECT TYPE

High-Rise Residential



LOCATION

Australia



YEAR

2022



19 First Avenue

- A 38-storey high-rise building in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment –

Assessment of the 38-storey high-rise building under critical design actions including wind and seismic loads.

ETABS 3D Modeling – Development of detailed 3D structural models and analysis to support the design and performance of the high-rise structure.

Wind Tunnel Testing & Load Assessment –

Determination and validation of design wind loads through advanced wind tunnel testing and analysis structural design.



PROJECT TYPE

High-Rise Residential



LOCATION

Australia



YEAR

2022



Burly The Esplanade

- A 25-storey high-rise residential tower in Burly, Gold Coast, Australia. The scope covers structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment –

Assessment of the 25-storey high-rise building under critical design actions including wind and seismic loads.

ETABS 3D Modeling – Development of detailed 3D structural models and analysis to support the design and performance of the high-rise structure.

Wind Tunnel Testing & Load Assessment –

Determination and validation of design wind loads through advanced wind tunnel testing and CFD simulation.



PROJECT TYPE

High-Rise Residential



LOCATION

Australia



YEAR

2022



Vista Street Tower

- A55-story high-rise building in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment

Assessment of the 55-story high-rise under critical wind and seismic actions.

ETABS 3D Structural Modeling

Development of detailed 3D structural models for analysis and stability evaluation.

Wind Tunnel Testing & Wind Load Assessment

Advanced wind tunnel testing to determine and validate accurate design wind loads



PROJECT TYPE

Residential Tower



LOCATION

South Brisbane /AUS



YEAR

2022



CYPRESS TOWERS (1&2)

CLIENT: Meriton

- A twin-tower skyscraper development in Melbourne, Australia, comprising two 100-story towers. The scope includes structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine the design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment –

Assessment of twin 100-story towers under critical design actions.

ETABS 3D Modeling – Advanced structural modeling for wind and seismic analysis.

Wind Tunnel Testing & Load Assessment –

Determination and validation of design wind loads through advanced wind tunnel testing.



PROJECT TYPE

Residential High-Rise Development



LOCATION

Gold Coast, Australia



YEAR

2022



Ahmad AlMusa

CLIENT: Ahmad AlMusa

- A 2,200 m² private villa in Al Riyadh, KSA, Jordan, with the scope covering the complete design package and authority approval process.

For this project MDH delivered:

Architectural & Structural Concept Design

- Development of the integrated architectural and structural concept in line with client requirements and local regulations.

Structural Design

- Structural analysis and design of all building elements to ensure safety, stability, and performance.

Design Package & Authority Approval

- Preparation of the complete design package including drawings, specifications, and calculations, and managing the authority approval process.

Design Coordination

- Coordination with architectural and MEP disciplines to ensure an integrated and efficient design solution.



PROJECT TYPE

Private Villa



LOCATION

Riyadh, KSA



YEAR

2021

Crown Plaza Hotel

- A hotel extension project in Petra, Jordan, with the scope covering the redesign and optimization of structural components to address construction requirements and resolve existing design issues. The scope also includes complete structural shop drawings developed using BIM LOD 400 requirements.

For this project MDH delivered:

Re-design & Structural Optimization — Redesign and optimization of structural components to meet construction requirements and resolve existing design issues.

BIM Modeling (LOD 400) — Development of coordinated BIM structural models at LOD 400 to support accurate documentation and construction.

Structural Shop Drawings — Production of complete structural shop drawings in compliance with BIM LOD 400 requirements.

Design Coordination & Clash Resolution — Coordination with architecture and MEP disciplines to ensure constructability and resolve clashes.

Construction Support & Documentation — Providing technical support and updated documentation during the construction stage to ensure accurate implementation.



PROJECT TYPE

Hotel Extension



LOCATION

Petra, Jordan



YEAR

2021

Residential Complex

CLIENT: AlShati Group

- A 60,000 m2 residential complex in Al-Dammam, KSA, with the scope covering the development of the structural concept and schematic design package.

For this project MDH delivered:

Structural Concept Development – Development of the overall structural concept to meet architectural intent, functional requirements and codes.

Schematic Structural Design – Preparation of schematic structural designs including preliminary calculations and structural layout.

Design Coordination – Coordination with architectural and MEP disciplines to ensure an efficient and integrated design solution.

Value Engineering & Optimization – Structural system optimization to achieve cost efficiency and constructability without compromising safety.

Documentation Package – Preparation of the complete schematic design package for further design development.



PROJECT TYPE

Residential Complex



LOCATION

Dammam, KSA



YEAR

2021

Al-Ahlyia and al-motran Private School

- A school development in Amman, Jordan, with the scope covering the complete structural design and IFC documentation to BIM LOD 350, supported by detailed structural calculations and design checks using ETABS and SAFE

For this project MDH delivered:

Structural Analysis & Stability Assessment

Assessment of the 25-story high-rise structure under critical wind and seismic loads.

ETABS 3D Structural Modeling

Development of detailed 3D models for structural analysis and performance evaluation.

Wind Tunnel Testing & Load Assessment

Validation of design wind loads through advanced wind tunnel testing and CFD analysis.



PROJECT TYPE
Educational / School
Building



LOCATION
Amman, Jordan



YEAR
2021



Madaba Chalets

CLIENT: Majdi Alawnha

- 1500 m2 residential chalet in Al-Madaba, Jordan, with the scope covering the complete design package and authority approval process.

For this project MDH delivered:

Architectural Concept & Design – Development of the architectural concept and detailed design in line with client requirements and local regulations.

Structural Design – Structural analysis and design of all building elements to ensure safety, stability, and performance.

Design Coordination – Coordination with relevant disciplines to ensure an integrated and efficient design solution.

Design Package Preparation – Preparation of the complete design package including drawings, specifications, and calculations.

Authority Approval – Managing and submitting all required documents to obtain the necessary authority approvals.



PROJECT TYPE
Residential Chalet Complex



LOCATION
Madaba, Jordan



YEAR
2020

Junadi Villa

CLIENT: Hassan Junaidi

- A 600 m² private villa in Al Riyadh, KSA, Jordan, with the scope covering the complete design package and authority approval process.

For this project MDH delivered:

Architectural Concept & Design – Development of the architectural concept and detailed design in line with client requirements and local regulations.

Structural Design – Structural analysis and design of all building elements to ensure safety, stability, and performance.

Design Coordination – Coordination with architectural and MEP disciplines to ensure an integrated and efficient design solution.

Design Package Preparation – Preparation of the complete design package including drawings, specifications, and calculations.

Authority Approval – Managing and submitting all required documents to obtain the necessary authority approvals.



PROJECT TYPE
Private Villa



LOCATION
Fuhais, Jordan



YEAR
2020

Abdulrazeq Villa

CLIENT: Ibrahim Abdulrazeq

- A 550 m2 private villa in Al Riyadh, KSA, Jordan, with the scope covering the complete design package and authority approval process.

For this project MDH delivered:

Architectural Concept & Design — Development of the architectural concept and detailed design in line with client requirements and local regulations.

Structural Design — Structural analysis and design of all building elements to ensure safety, stability, and performance.

Design Coordination — Coordination with architectural and MEP disciplines to ensure an efficient and integrated design solution.

Design Package Preparation — Preparation of the complete design package including drawings, specifications, and calculations.

Authority Approval — Managing and submitting all required documents to obtain the necessary authority approvals.



PROJECT TYPE

Private Villa



LOCATION

Al Salt, Jordan



YEAR

2020

41 TERRY ROAD PROJECT

- 11 building with 3 to 4 story heights in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Design – Comprehensive structural analysis and design for the 11 buildings.

ETABS 3D Modeling – Development of detailed 3D structural models for wind and seismic analysis.

Stability Assessment – Evaluation of structural stability and overall building performance under design actions.

Code Compliance – Structural design and assessment in accordance with applicable Australian Standards.



PROJECT TYPE

Residential Development
– 11 Buildings



LOCATION

South Brisbane / AUS



YEAR

2020



AL-SULAIMAN COMPLEX

- Residential complex in Al-Riyadh with 2 basements and several buildings of 4 to 6 floors. The scope includes complete structural design services from the concept stage through to IFC, along with BIM modeling to LOD 350.

For this project MDH delivered:

Structural Design – Complete structural design services from concept development through to IFC documentation.

BIM Modeling – Development of a detailed structural BIM model to LOD 350.

Multi-Building Coordination – Structural coordination across the residential buildings and 2 basement levels.

Construction Documentation – Preparation and development of coordinated structural drawings and IFC deliverables



PROJECT TYPE

Residential Complex



LOCATION

KSA



YEAR

2020



WARADA ON WALKER STREET

- A30-story high-rise building in Australia, with the scope covering structural analysis and stability assessment using ETABS 3D models for wind and seismic actions in accordance with Australian Standards, supported by advanced wind tunnel testing to accurately determine design wind loads.

For this project MDH delivered:

Structural Analysis & Stability Assessment –

Assessment of the 30-story high-rise under critical design actions.

ETABS 3D Modeling –

Structural modeling and analysis for wind and seismic actions.

Wind Tunnel Testing & Load Assessment –

Accurate determination of design wind loads through advanced wind tunnel testing.



PROJECT TYPE

High-Rise Residential



LOCATION

Australia



YEAR

2019



THANK YOU !