



STRUCTURAL BIM CATALOG

From concept to construction-ready BIM models, we deliver accuracy, clarity, and coordination.

Service Overview

Structural BIM focuses on digitally representing a building's load-resisting systems and structural behavior in a coordinated 3D environment.

Unlike architectural BIM, which emphasizes spatial planning and visual intent, Structural BIM is driven by engineering logic, structural continuity, and constructability.

Our Structural BIM services span from design-intent structural modeling (LOD 200) to construction and reinforcement-ready detailing (LOD 400) and verified as-built structural models (LOD 500).

The models are developed to support coordination, construction sequencing, quantity reliability, and long-term structural asset records.

All structural models are created strictly based on approved structural drawings, design criteria, and project BIM standards.

No structural design assumptions are introduced unless explicitly defined by the client.

What We Do

Our Structural BIM team translates approved structural engineering outputs into accurate, logically connected, and construction-aligned digital models.

Structural BIM models are developed to clearly represent columns, beams, slabs, shear walls, cores, foundations, steel framing systems, and structural supports with precise geometry and alignment.

Throughout the modeling process, special attention is given to structural interfaces – including slab penetrations, embedded elements, openings, and coordination zones with architectural and MEP systems.

The models are continuously refined to incorporate engineering revisions, coordination resolutions, and construction-stage updates, ensuring the structural intent is accurately reflected until as-built delivery.

This approach enables improved site execution, reduced structural conflicts, and dependable BIM data for construction and lifecycle use.

Structural BIM Modeling Scope

Our Structural BIM services typically include:

- Structural modeling from LOD 200 to LOD 500 (As-Built)
- Level-wise and system-wise structural organization
- Coordination with architectural grids, levels, and MEP penetrations
- Model updates based on issued-for-construction drawings and site feedback
- Reinforced concrete, structural steel, and composite systems
- Accurate modeling of primary and secondary load-bearing elements

Key Benefits to Stakeholders

By using our Structural BIM services, stakeholders gain:

- Clear digital representation of structural load paths
- Improved coordination with architectural layouts and MEP systems
- Early identification of structural conflicts and constructability issues
- Reliable concrete, steel, and reinforcement quantities
- Faster preparation of coordinated structural drawings
- Accurate as-built structural records for future reference

Why Choose Us

- **Engineering-Oriented Modeling:** Structural logic and constructability drive our BIM approach
- **High Accuracy Standards:** Strict adherence to approved structural documents
- **Coordination-Focused Execution:** Special attention to interfaces and penetrations
- **Controlled QA/QC Process:** Multi-level internal checks before delivery
- **Flexible Engagement Models:** Support for design consultants, contractors, and EPC teams

Structural BIM Modeling Service Overview

Structural BIM services focus on the accurate development of intelligent 3D structural models based on approved design and engineering inputs.

Our Structural BIM models clearly represent all primary and secondary structural elements, including columns, beams, slabs, walls, foundations, cores, and load-resisting systems, ensuring consistency, accuracy, and constructability throughout the project lifecycle.

The models are developed with strict attention to alignment, connectivity, and level coordination to support smooth integration with architectural and MEP disciplines. Special emphasis is placed on managing repetitive elements, design revisions, and complex structural interfaces to minimize discrepancies during construction.

Structural BIM outputs are optimized for:

- Multidisciplinary coordination and clash detection
- Construction sequencing and planning
- Quantity extraction and documentation support
- Improved on-site execution and reduced rework

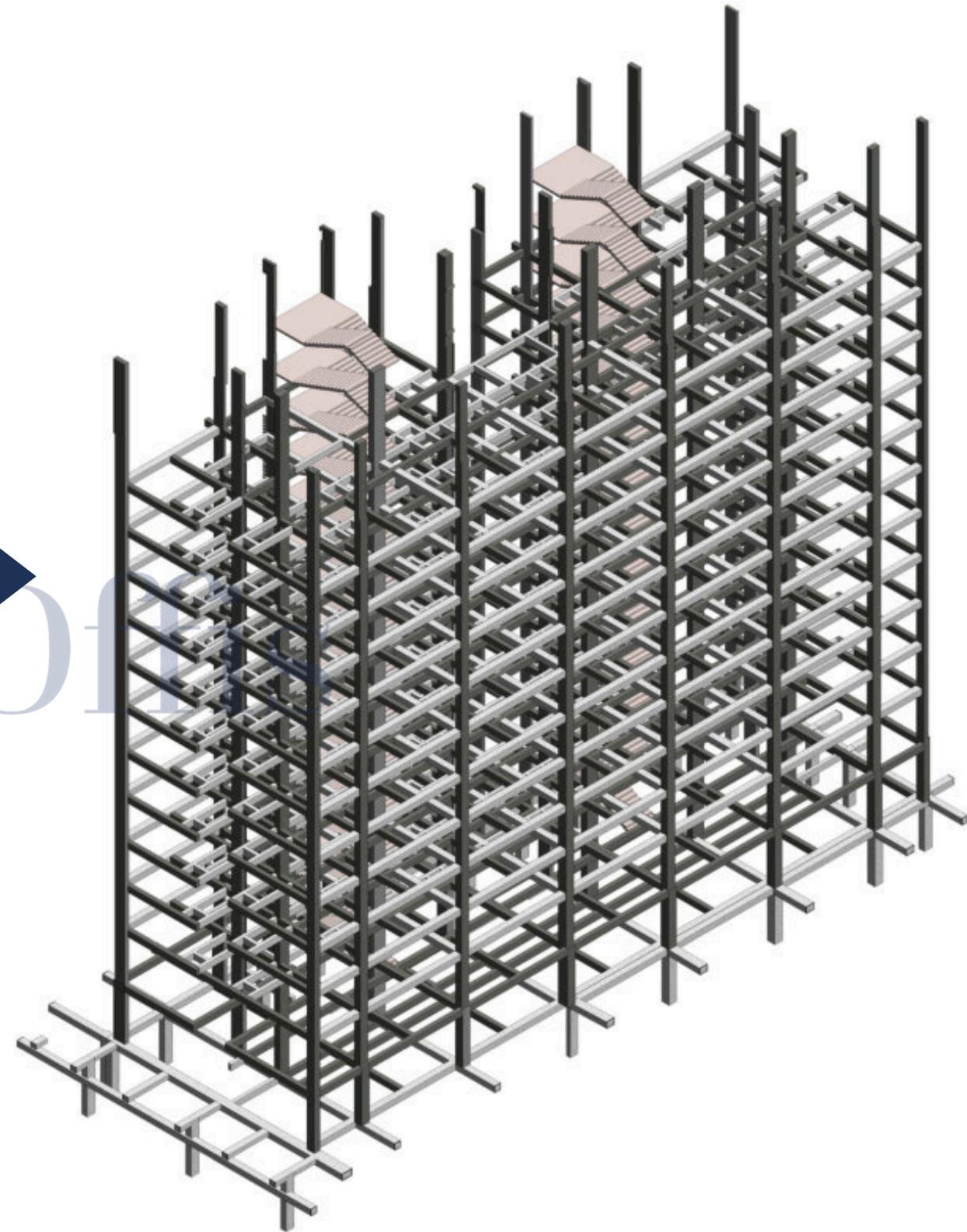
Our modeling approach supports efficient coordination reviews, clear structural intent visualization, and reliable data exchange across design, coordination, and construction teams, enabling well-coordinated and execution-ready structural BIM deliverables.



1. Eastern Ave

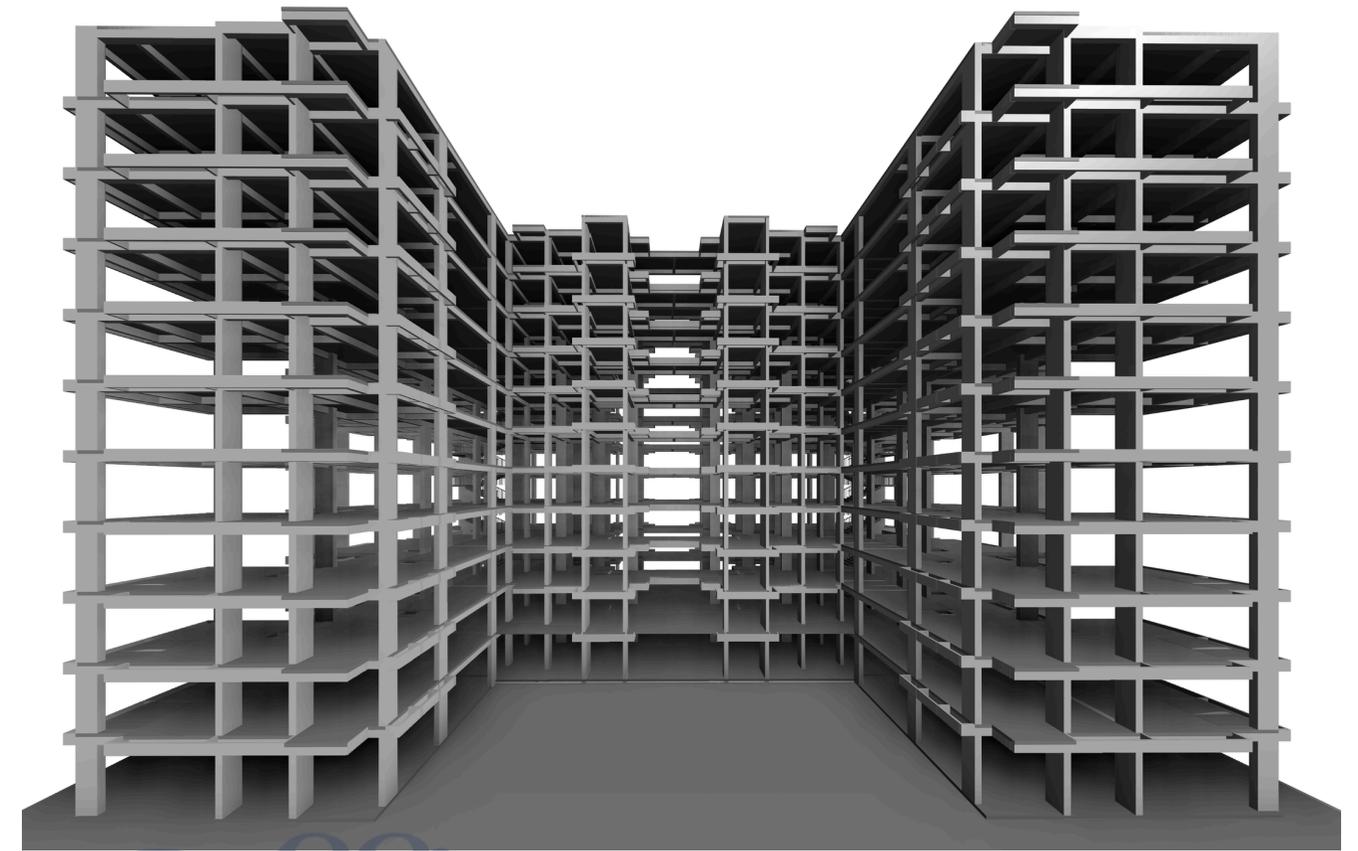


ARCHITECTURAL BIM 3D MODEL

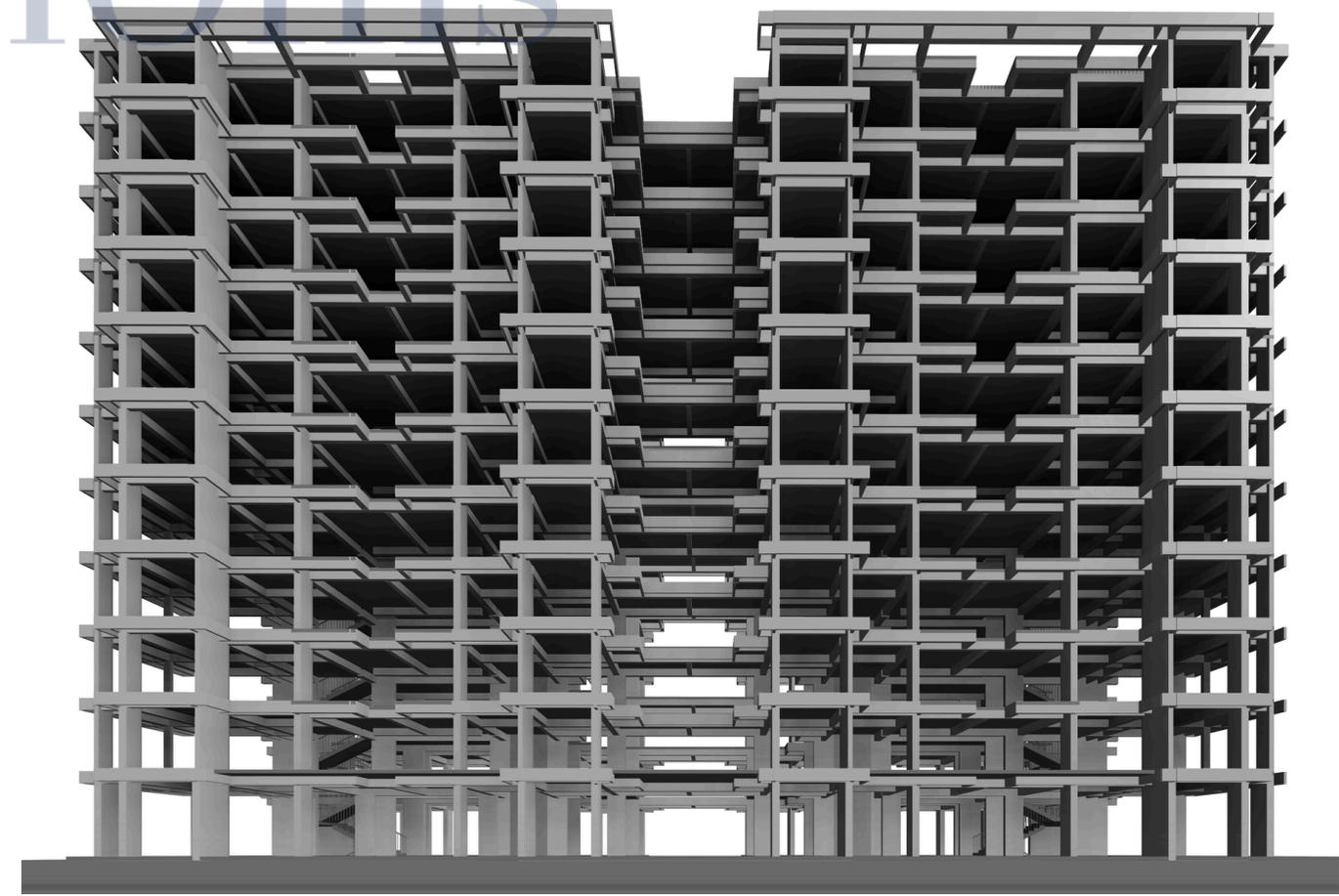
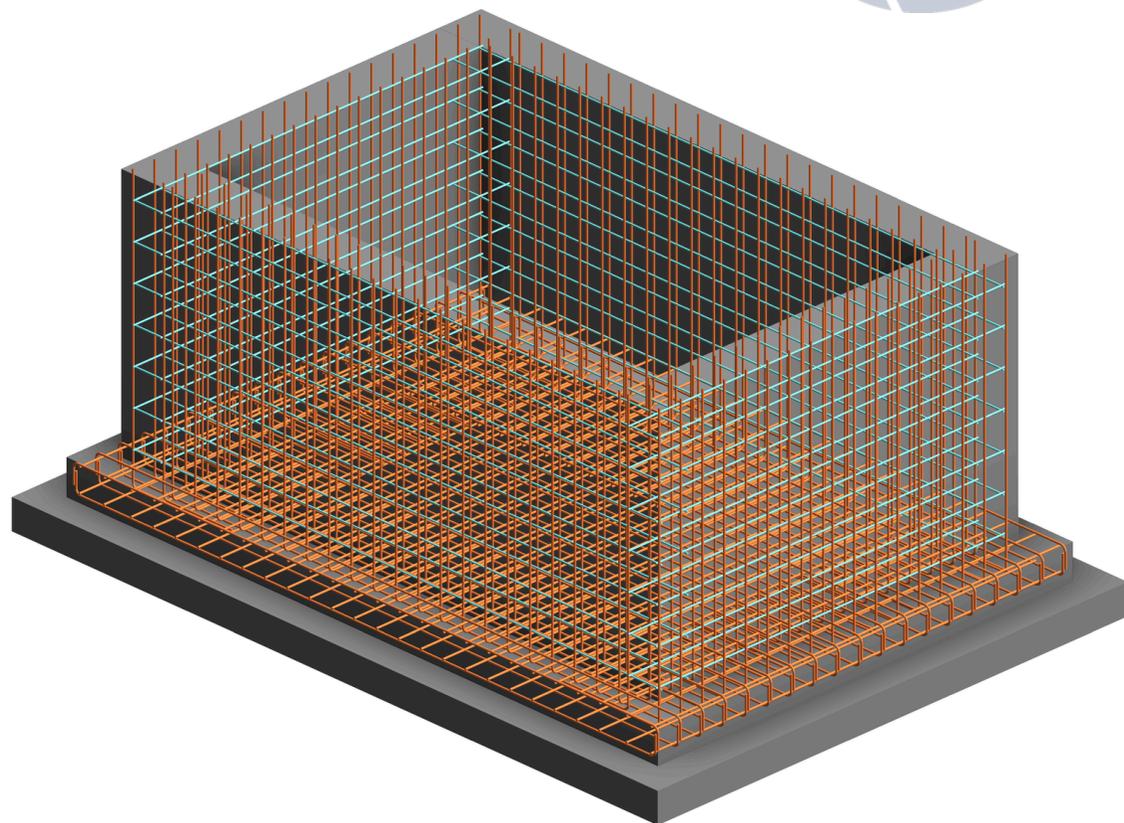


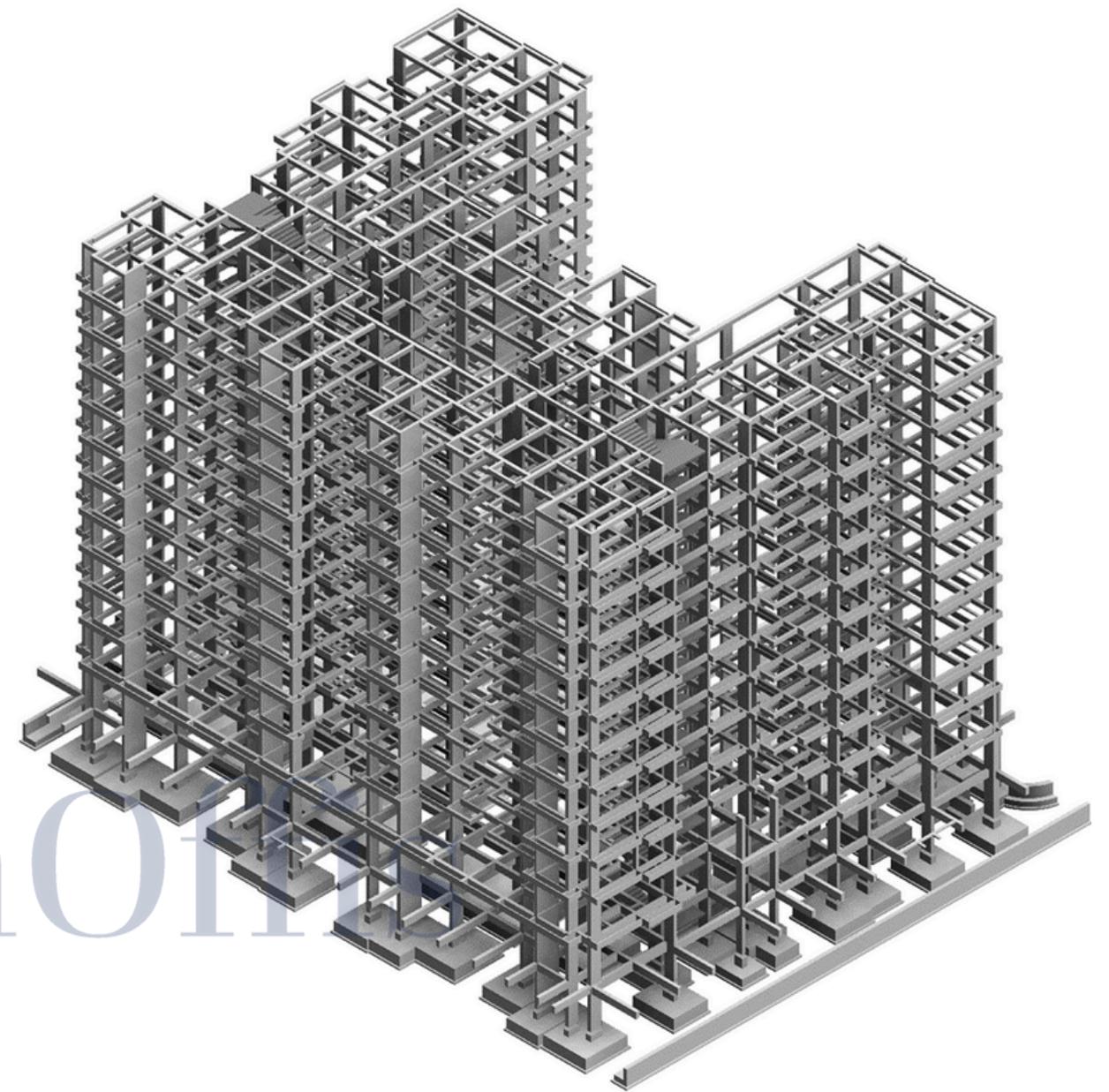
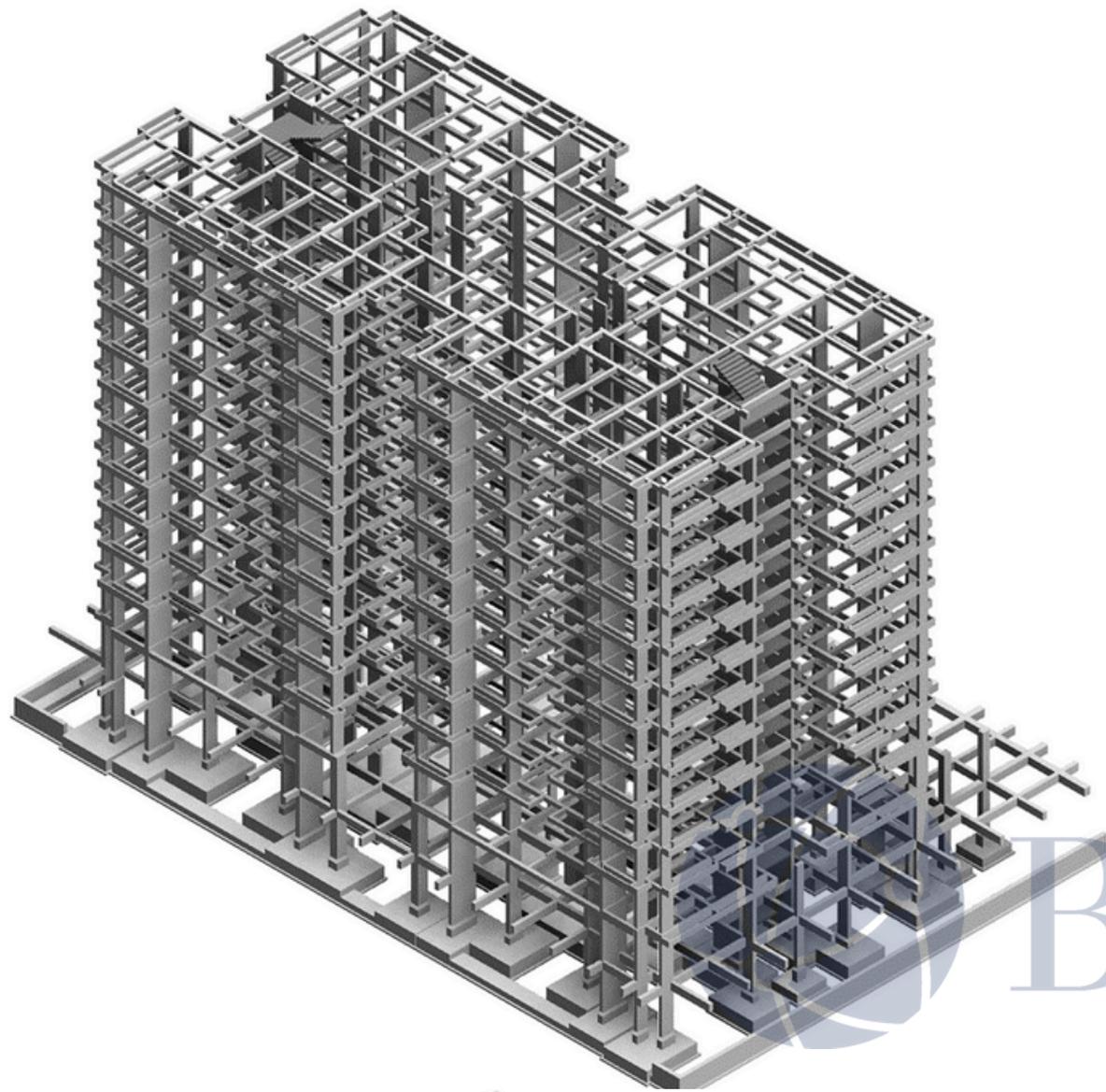
STRUCTURAL 3D MODEL

2. Serene Elegancy

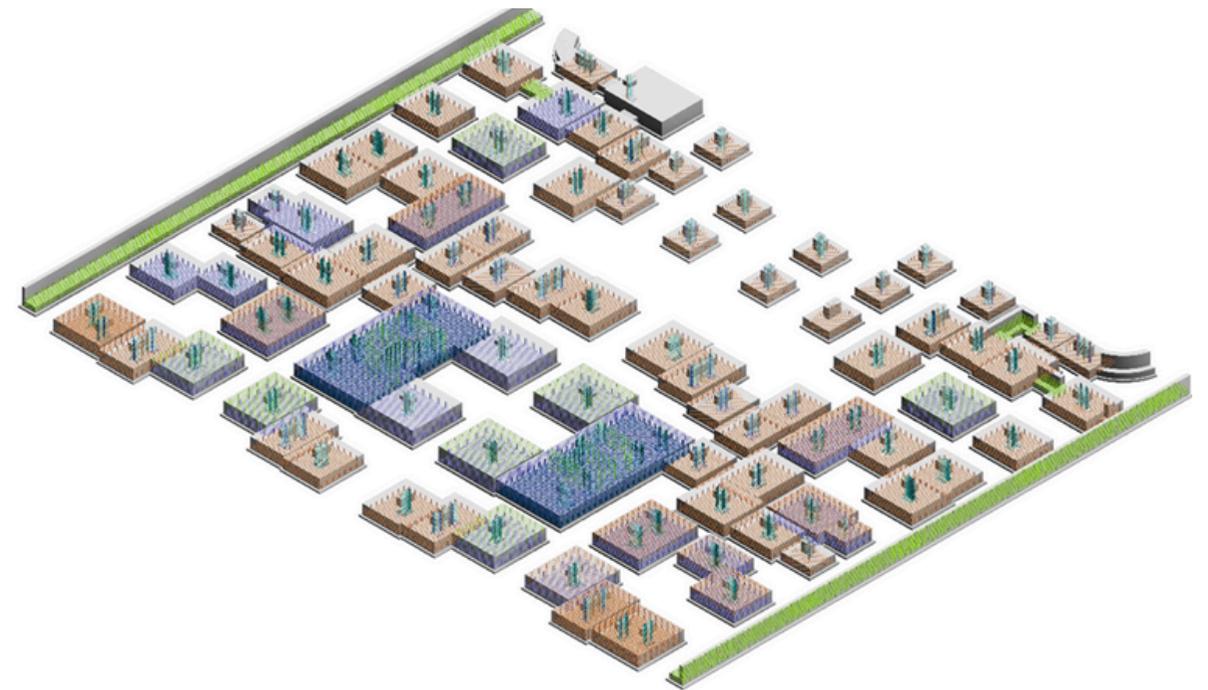
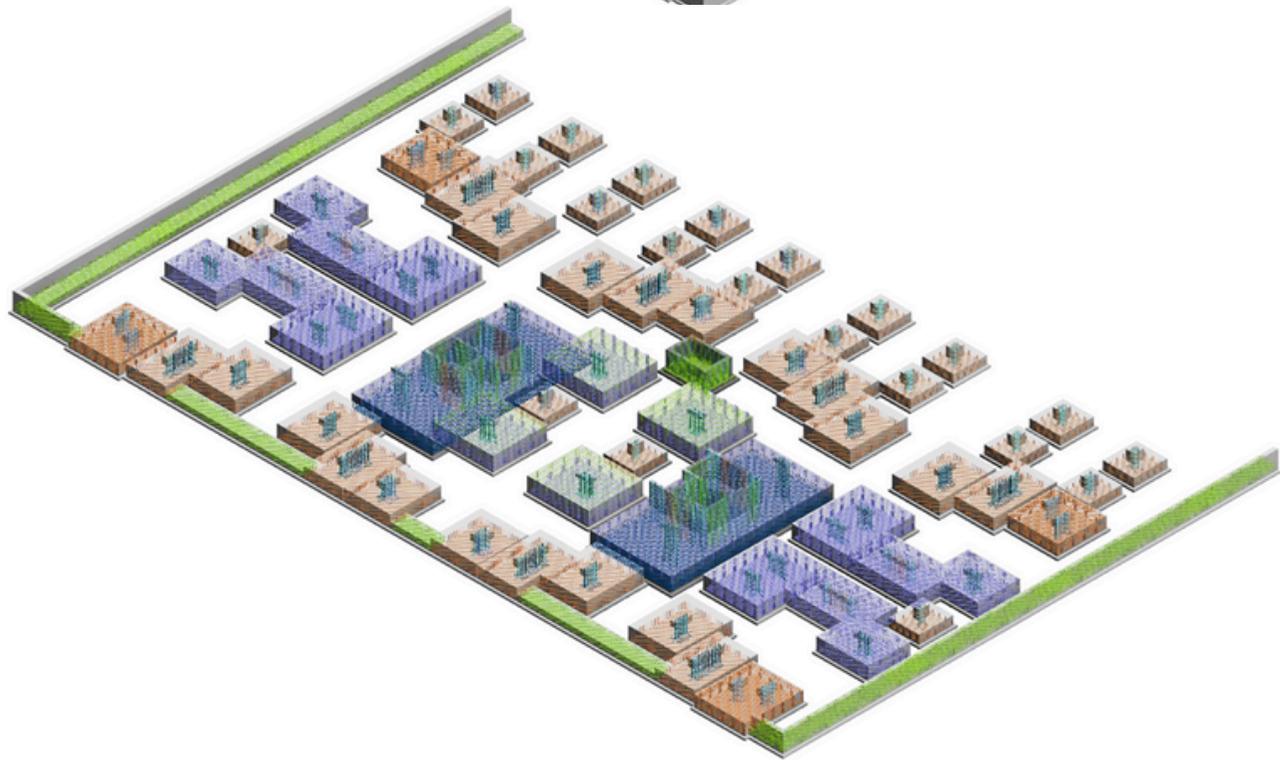


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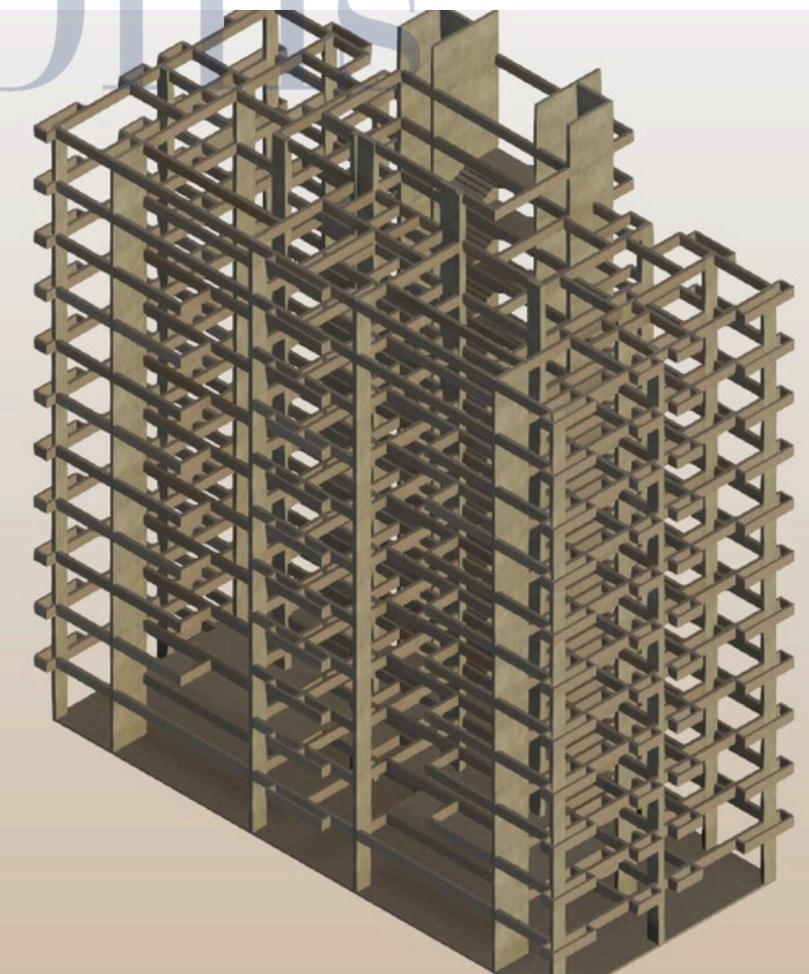
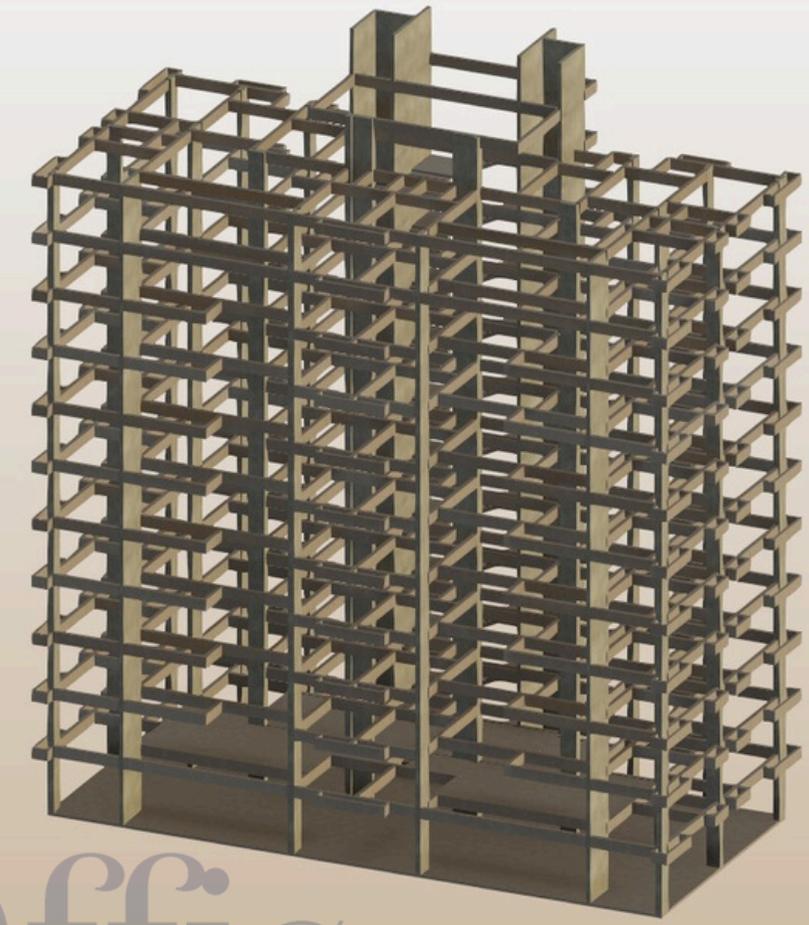
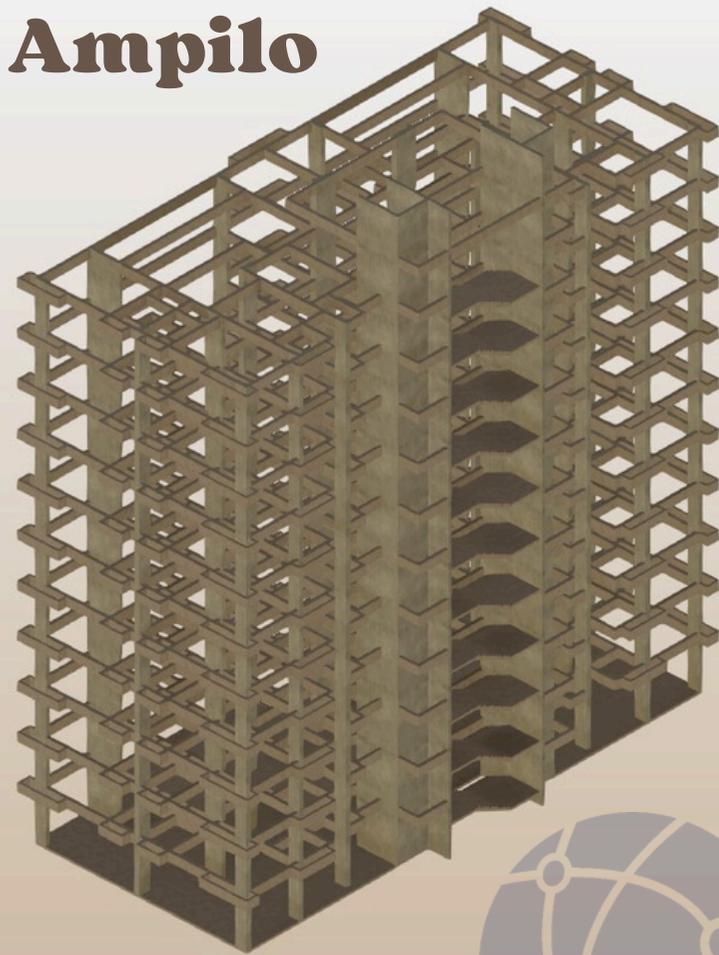




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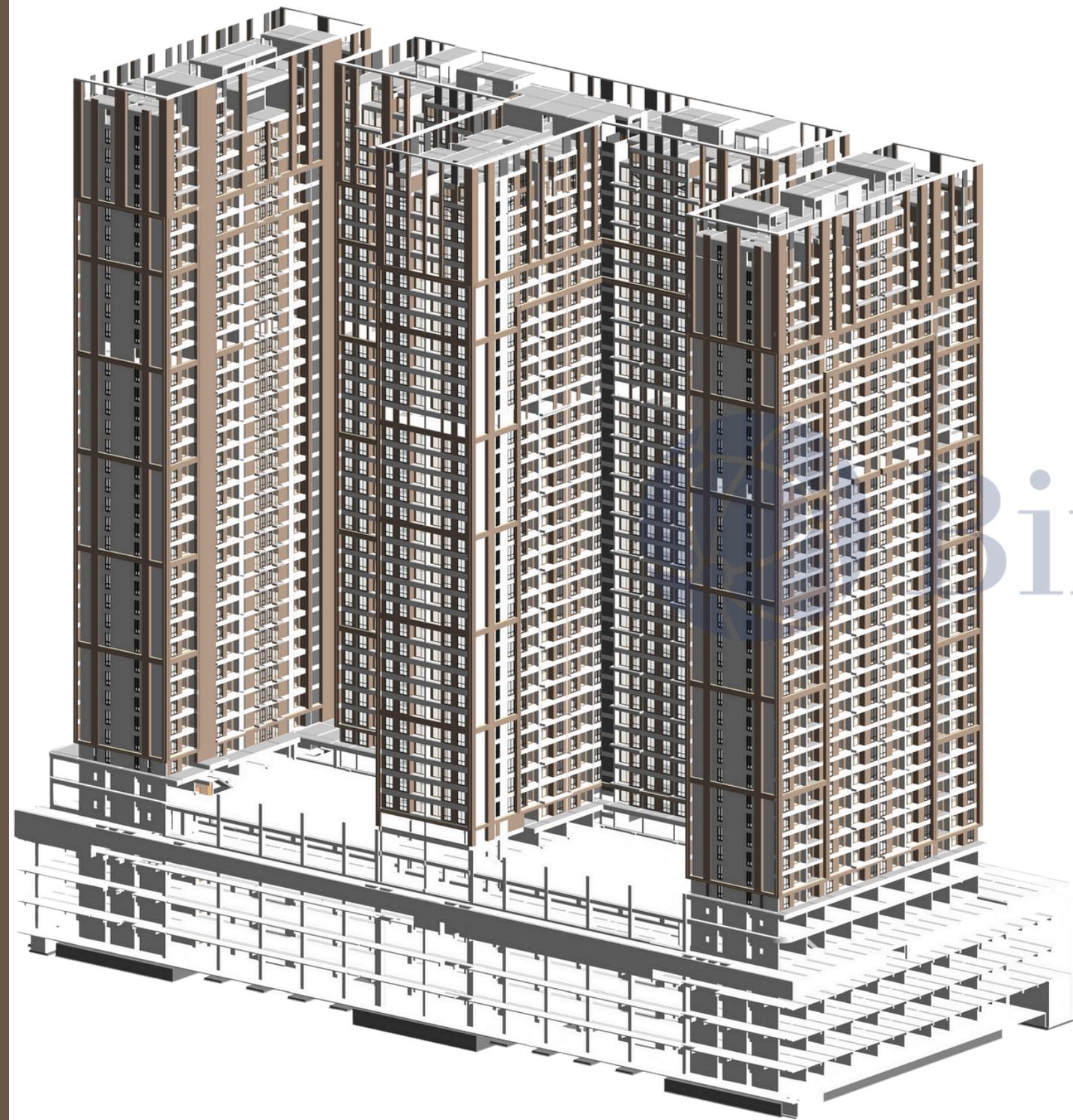


3. Casa Ampilo



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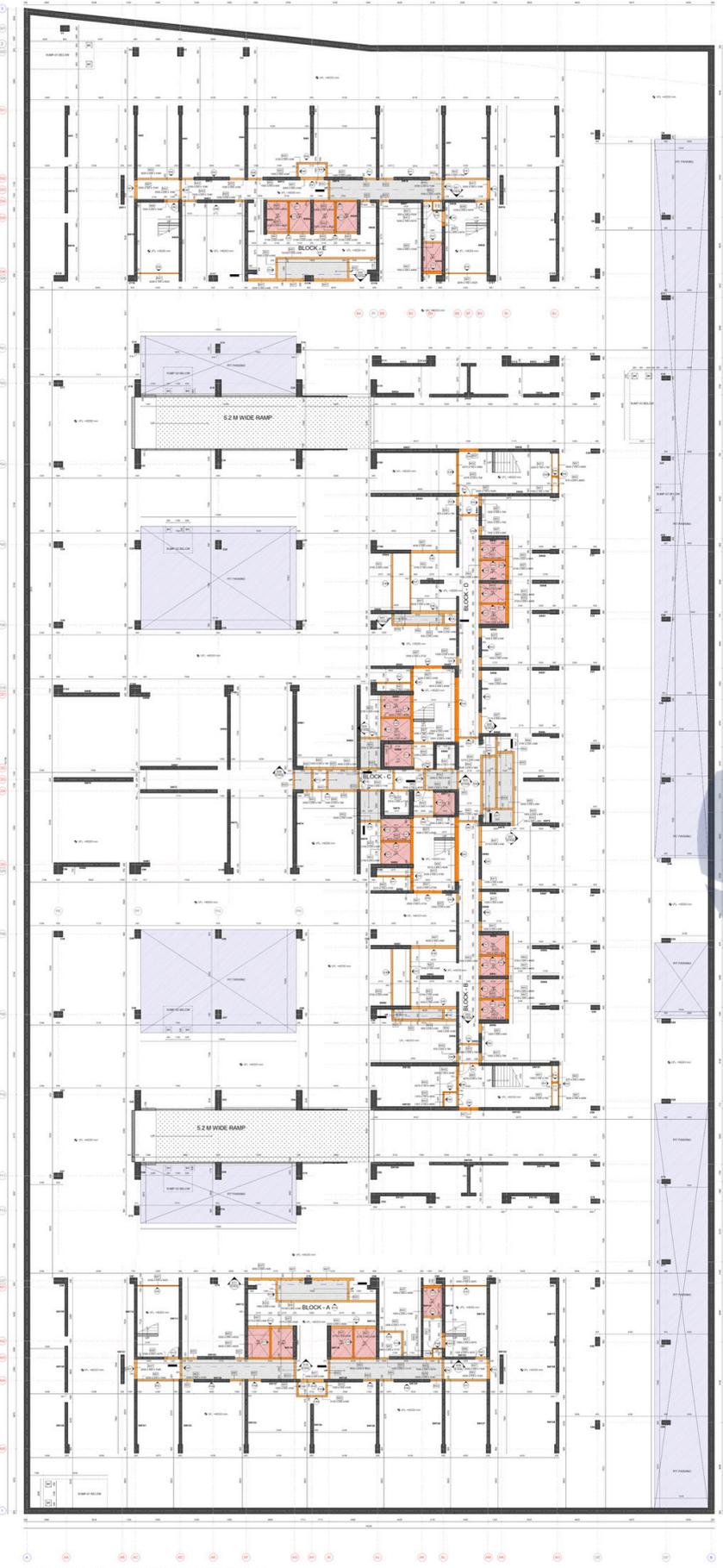
4. Gity City Project



STRUCTURAL 3D MODEL

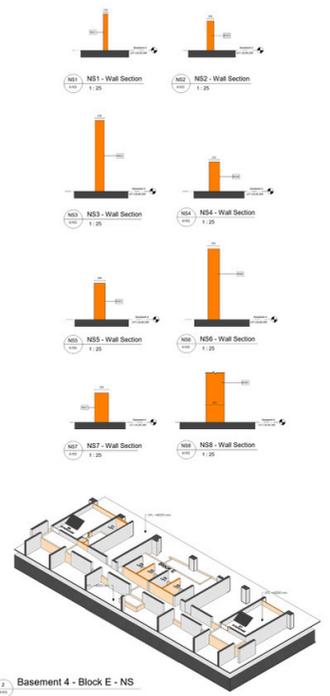


ARCHITECTURAL BIM 3D MODEL

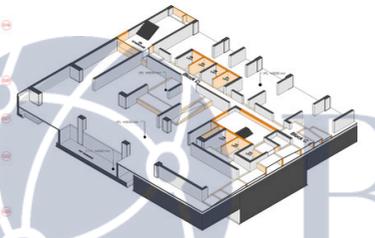


BASEMENT 4 - NON STRUCTURAL RCC WALL SHELL PLAN
1:100

TYPICAL NON-STRUCTURAL RCC WALL SECTIONS



Basement 4 - Block E - NS



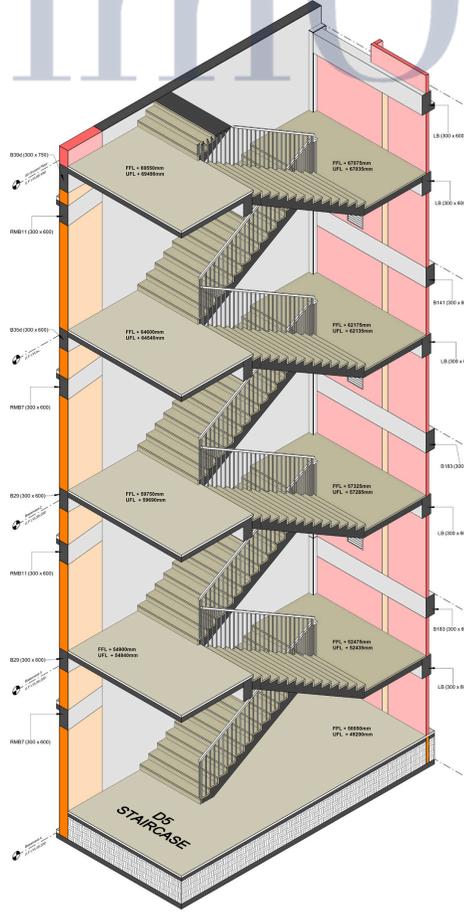
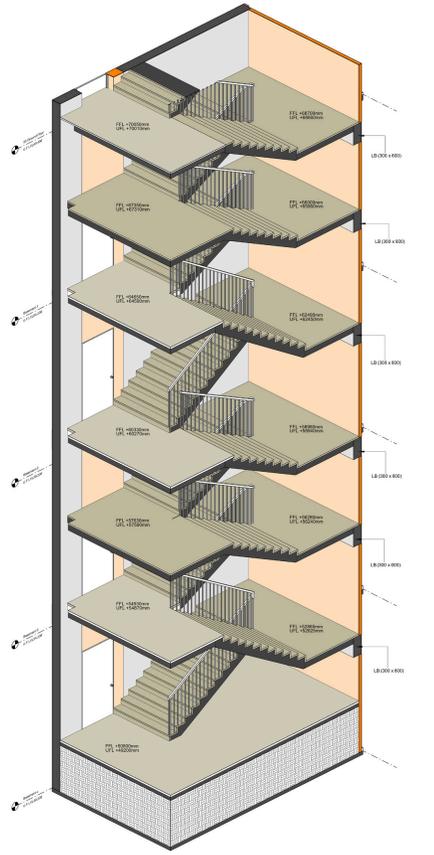
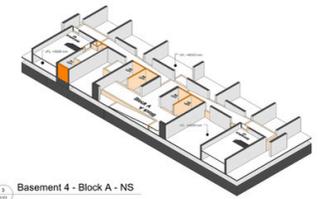
Basement 4 - Block C Core - NS



Basement 4 - Block C & B - NS

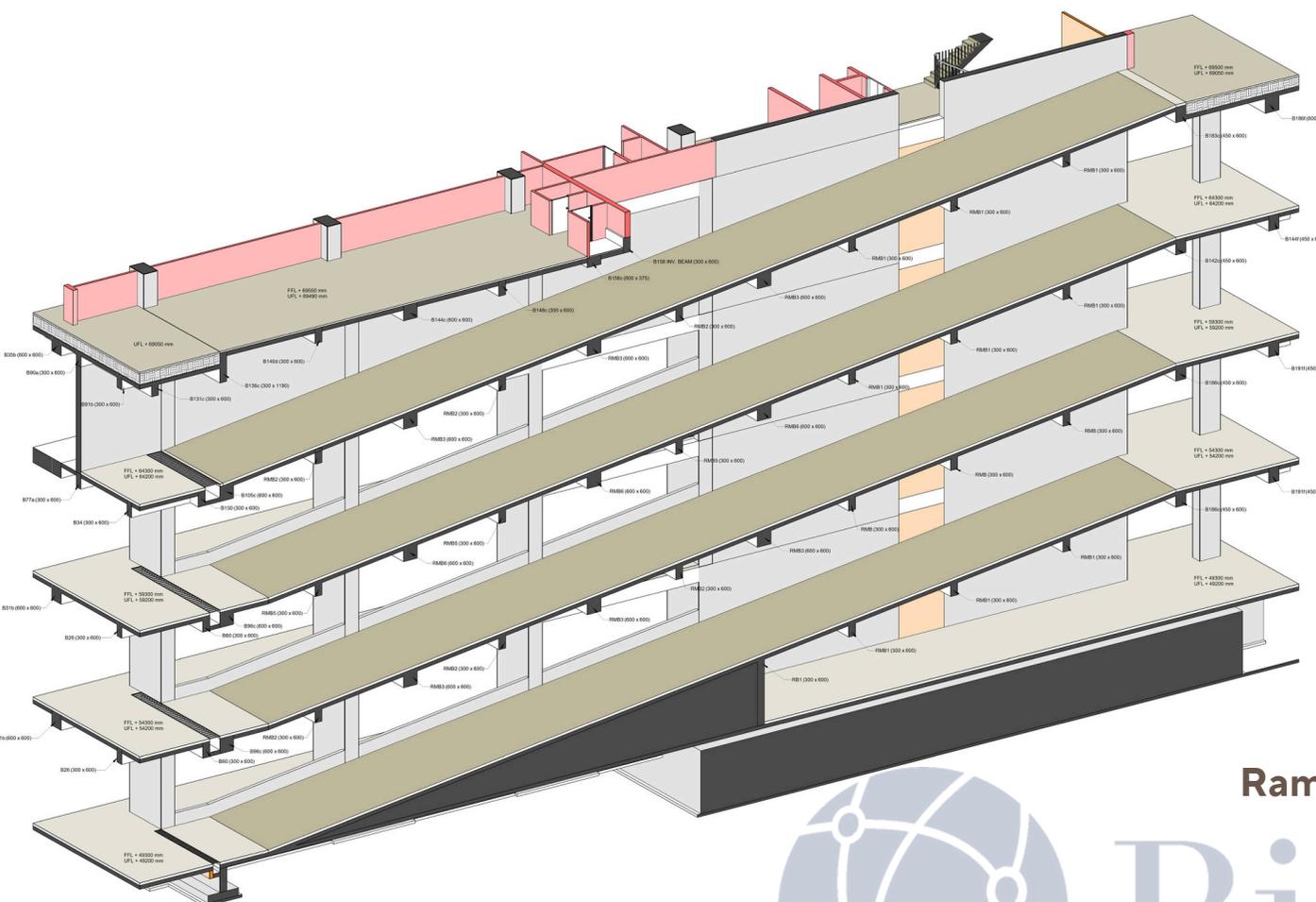


Basement 4 - Block A - NS

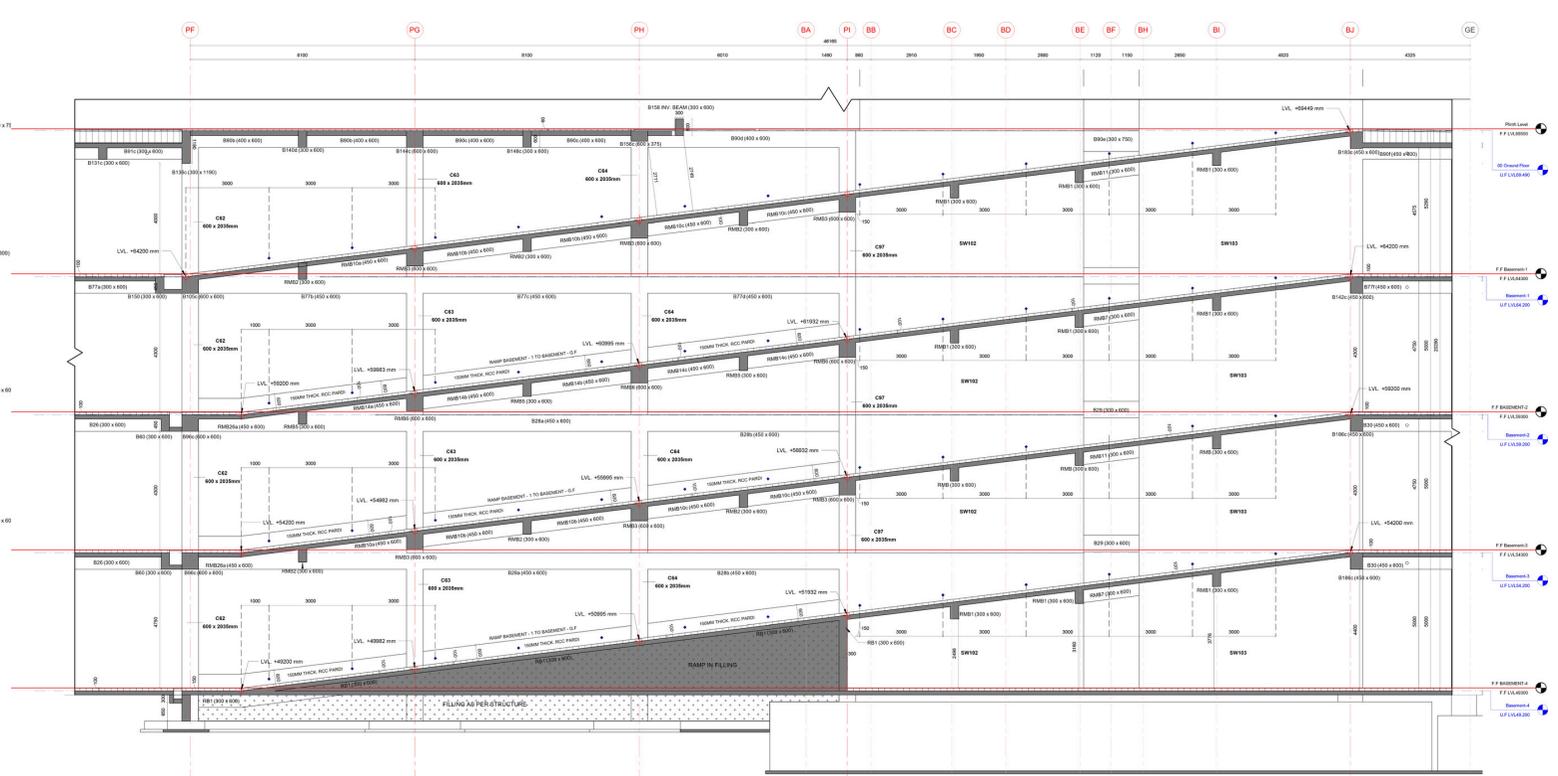


Slabedge Plan

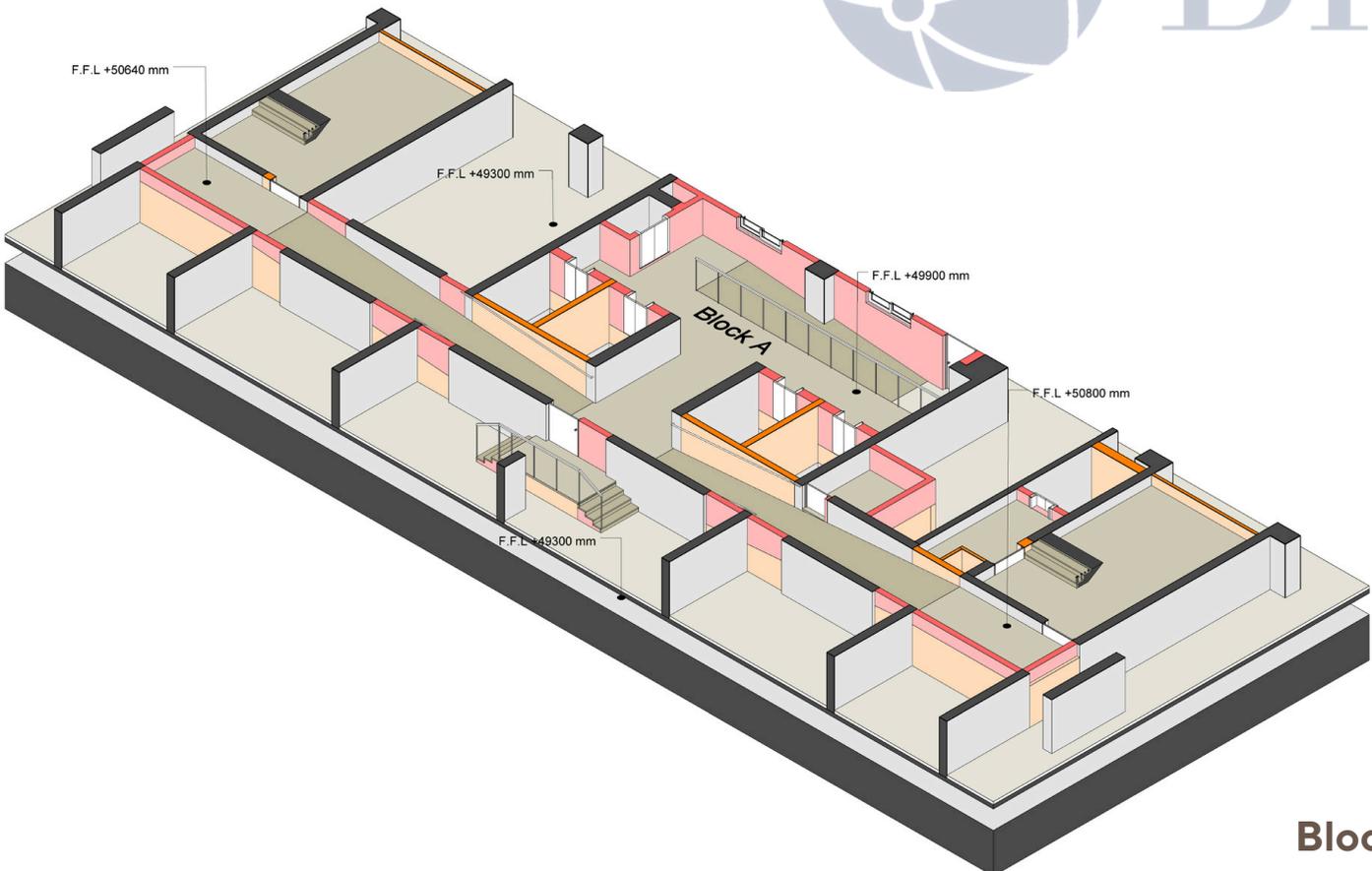
Basement-3 SlabEdge plan
1:100



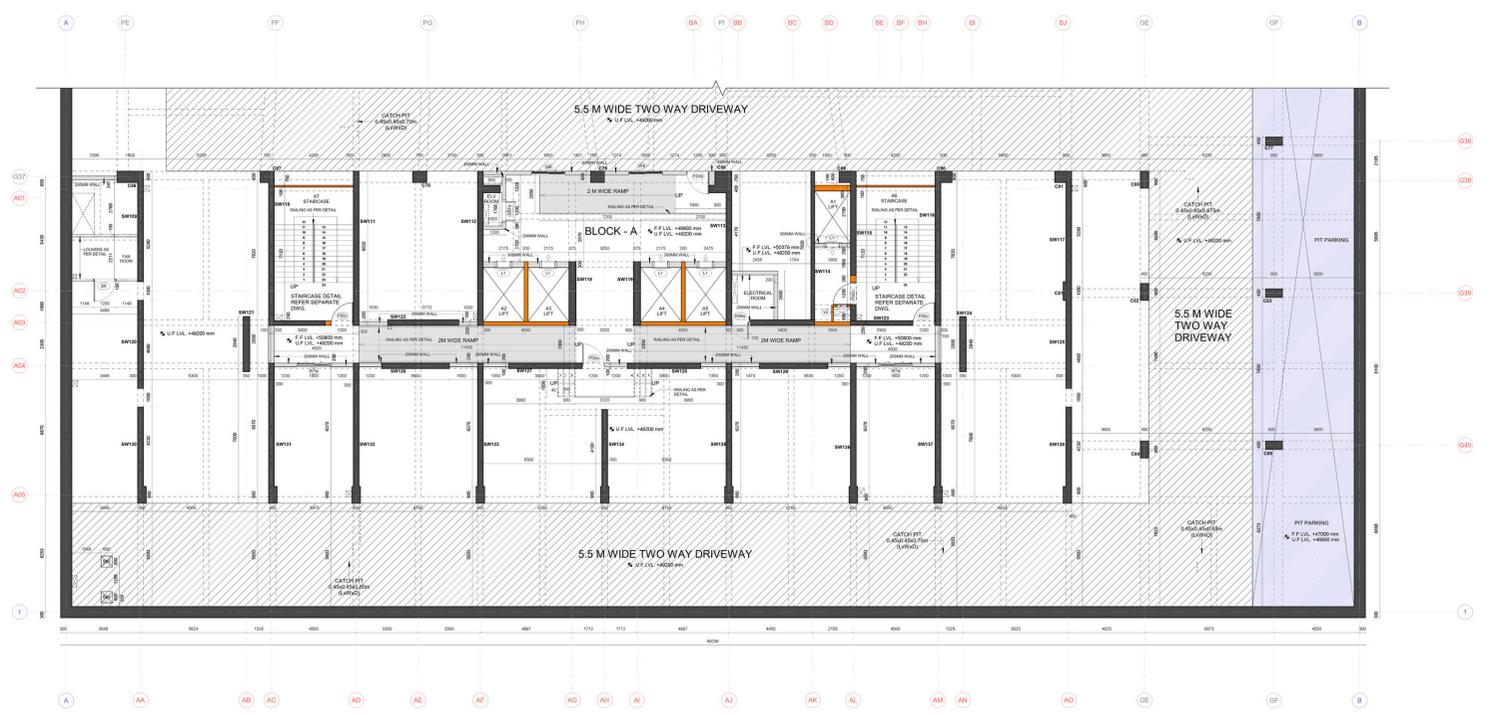
Ramp Section



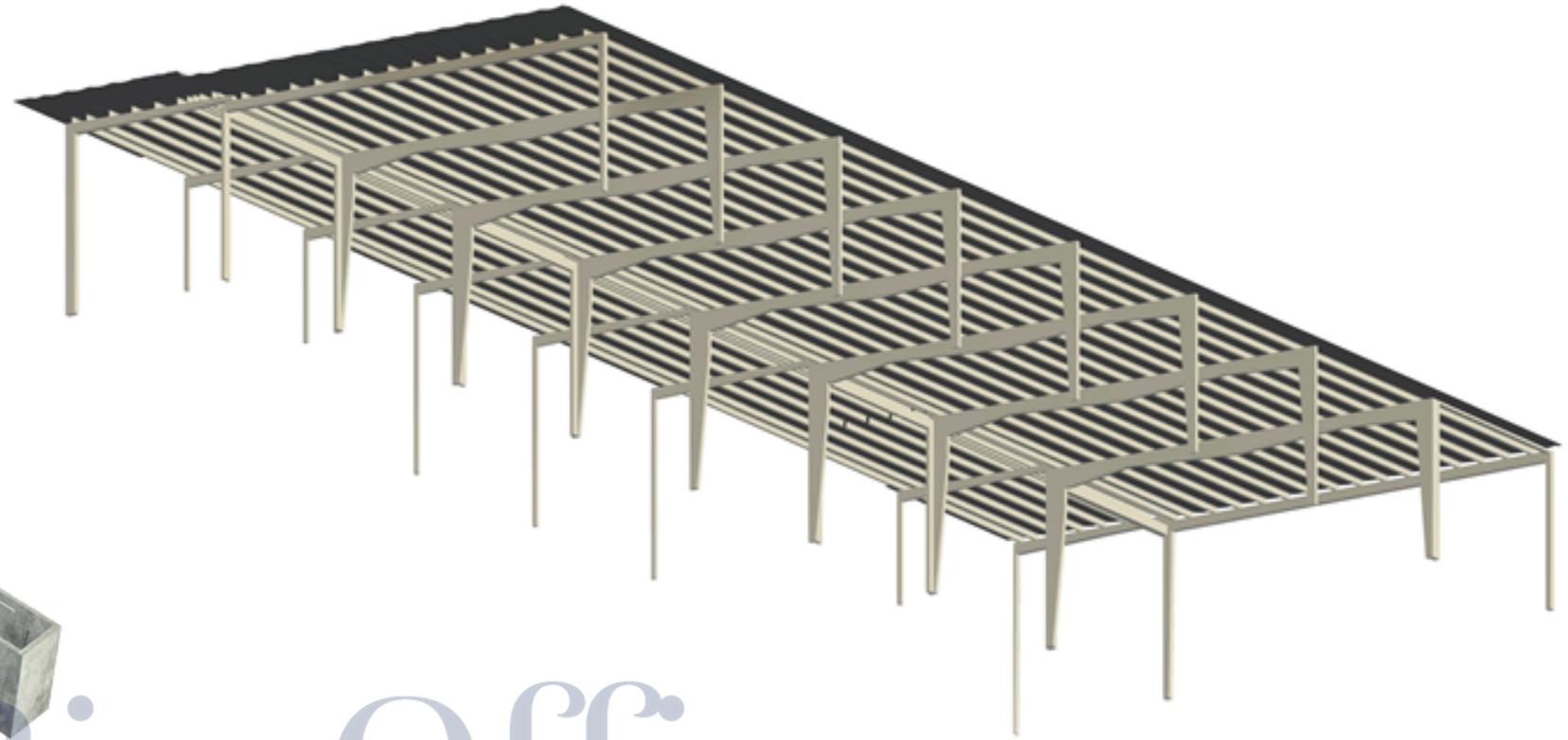
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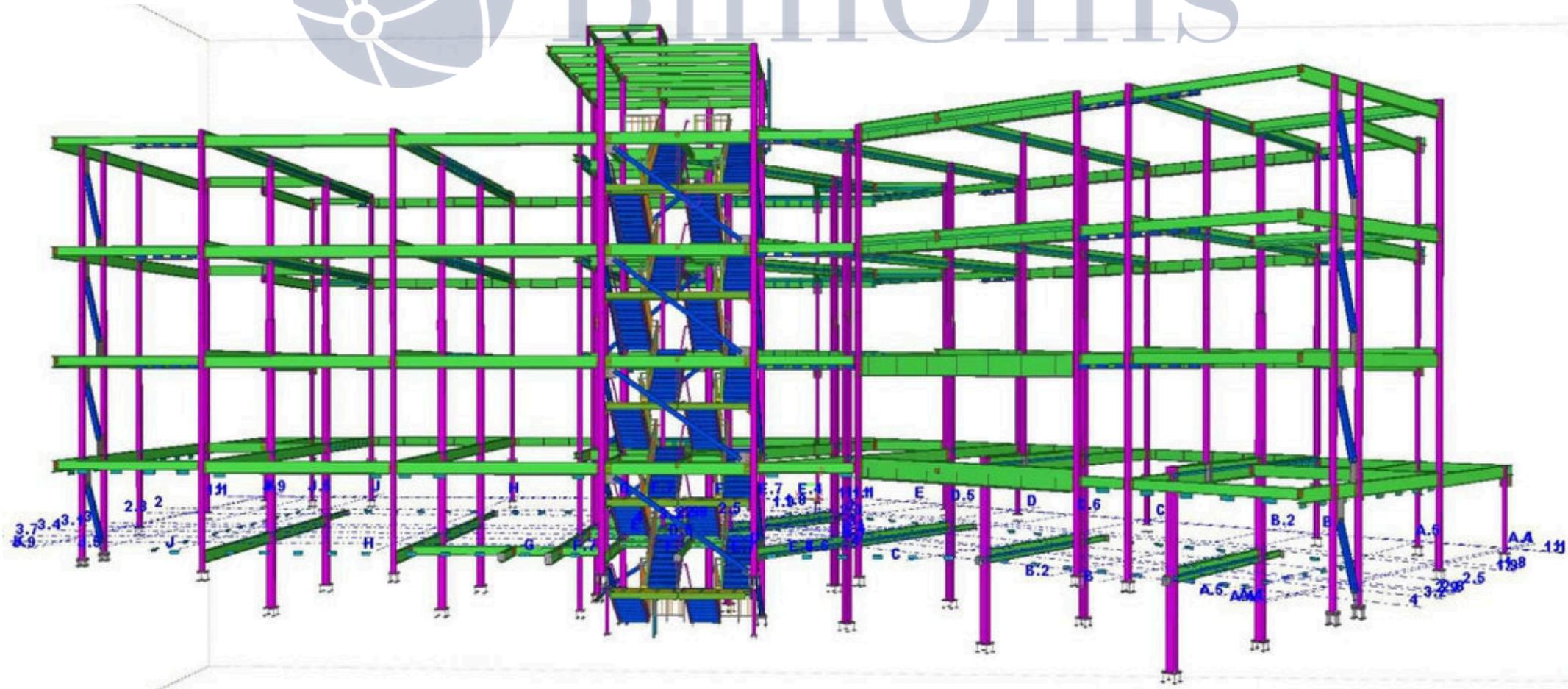
Block Section



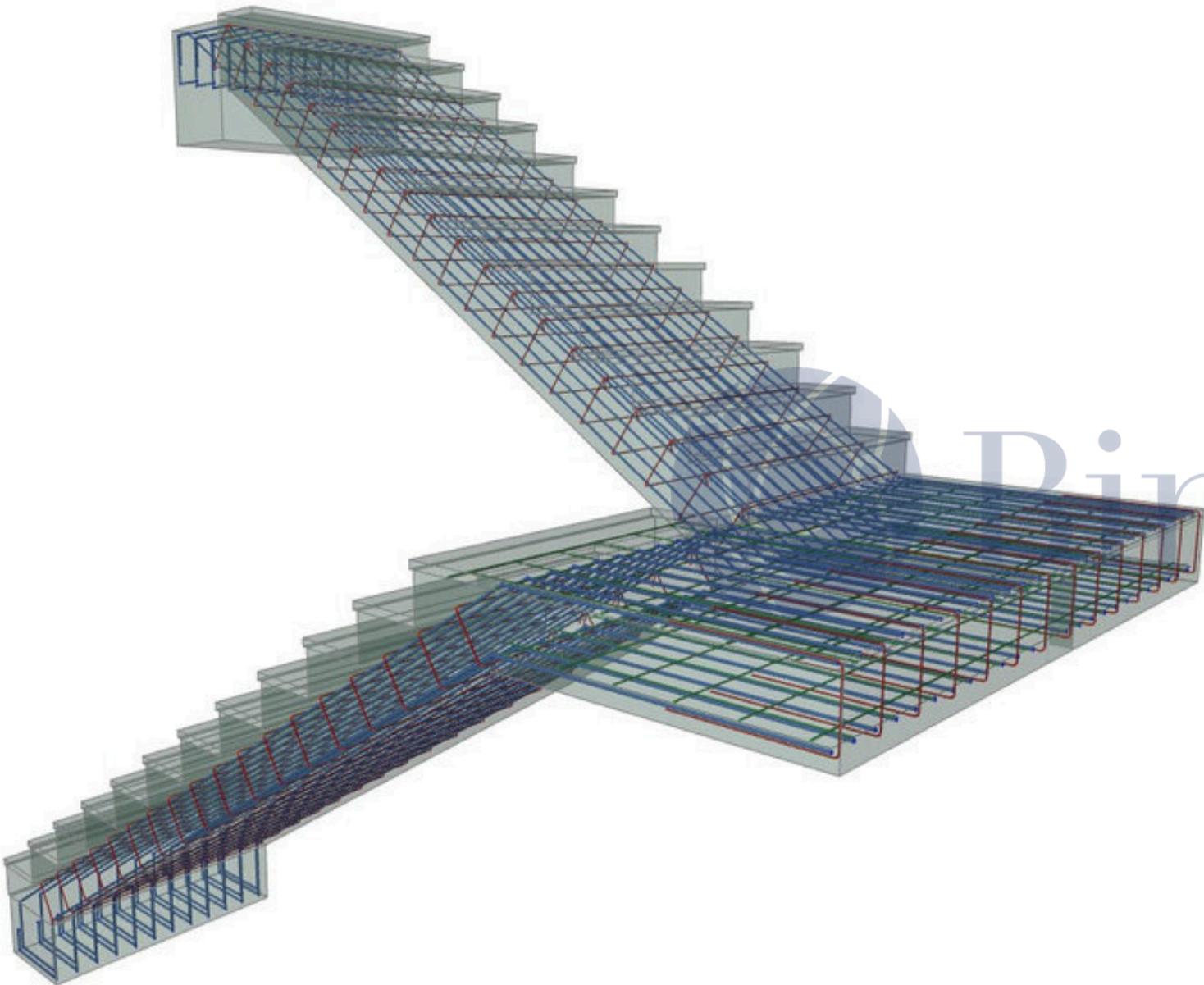
Fabrication Steel Detailing



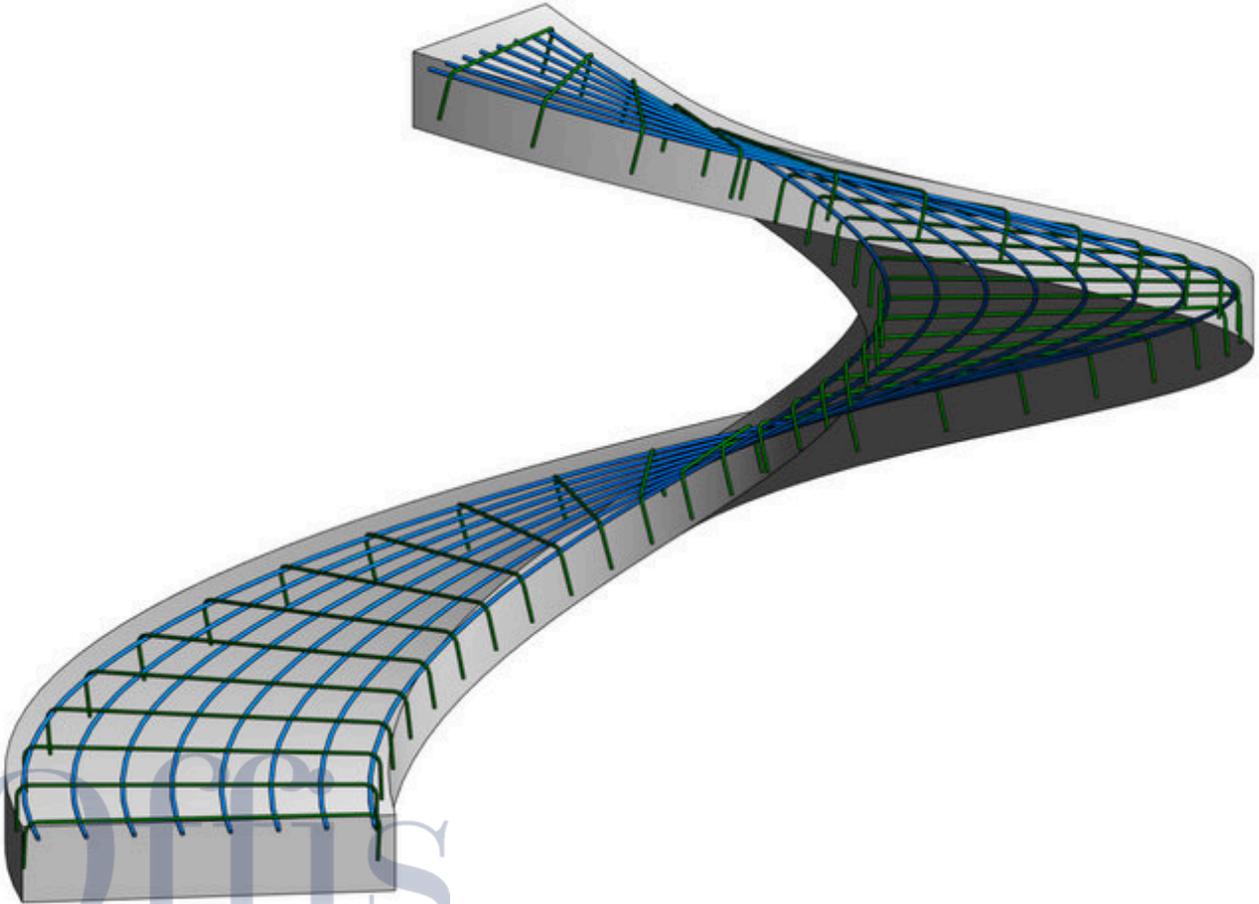
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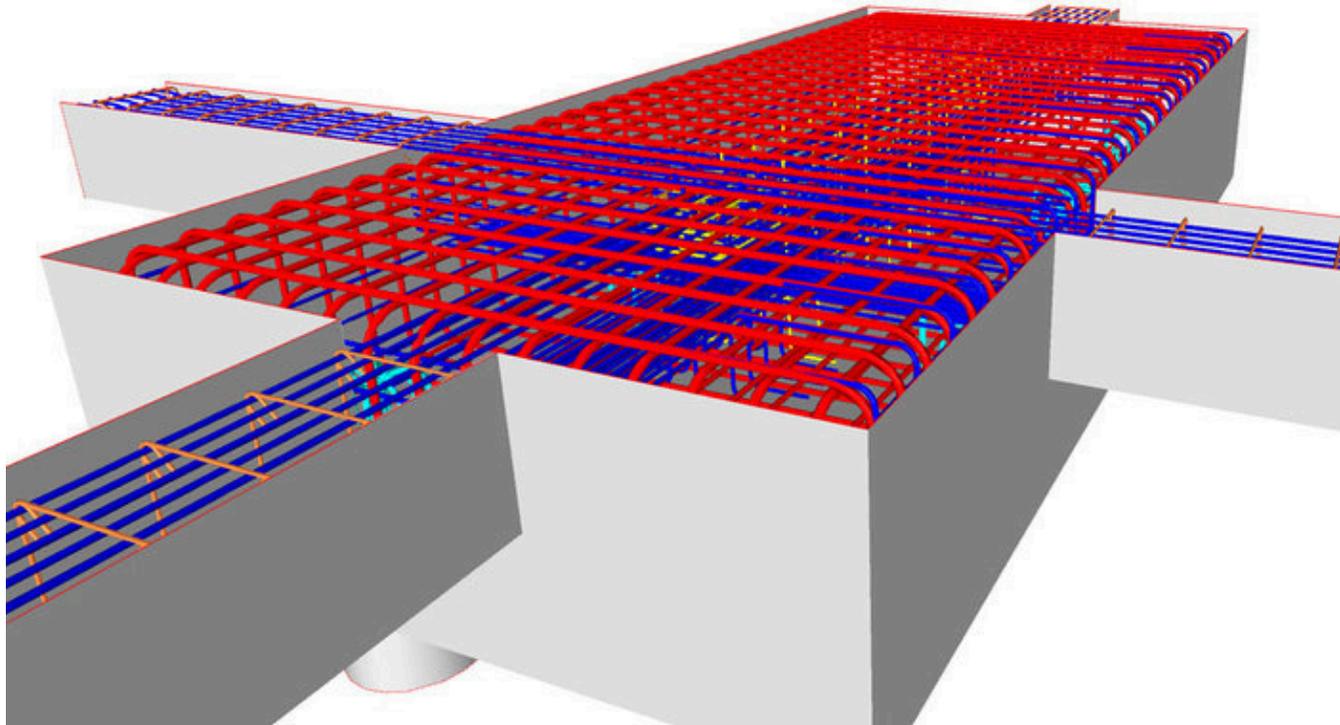
Rebar Modeling



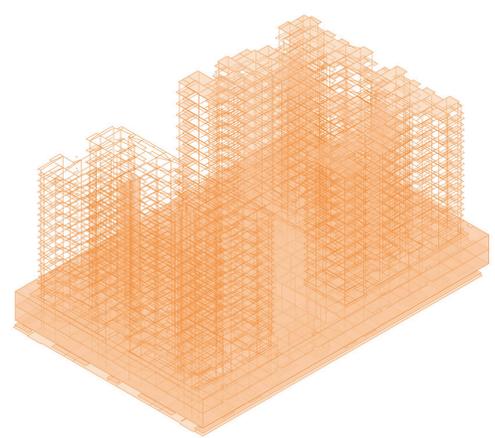
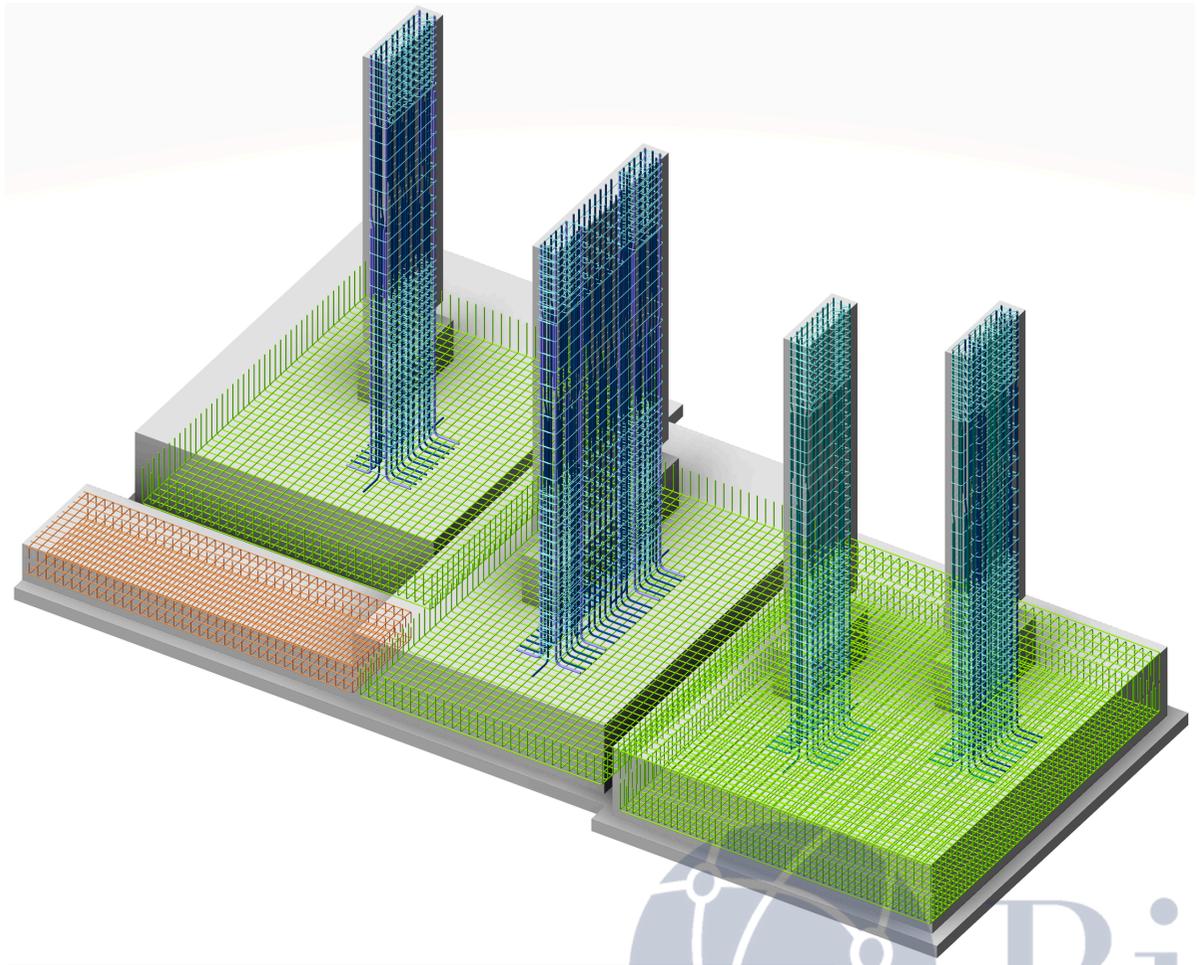
DOGLEGGED STAIRCASE STEEL DETAIL



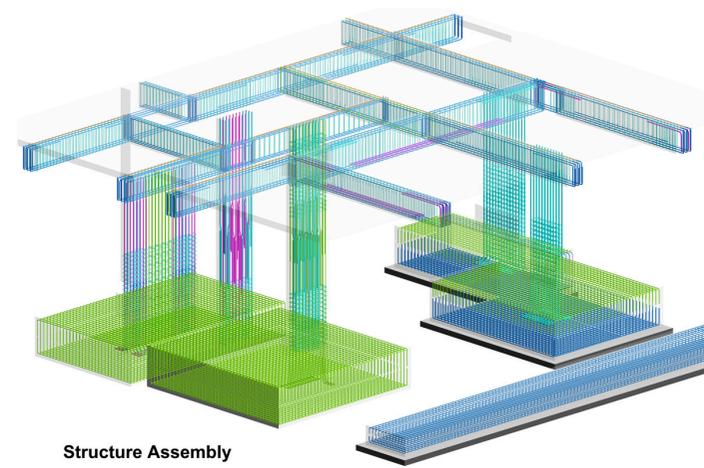
R.C.C SPRIAL STAIRCASE STEEL DETAIL



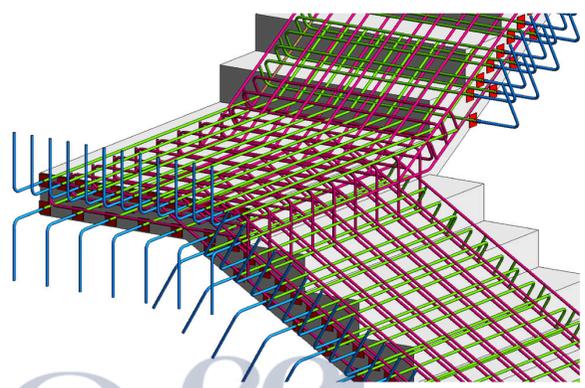
SLAB & BEAM STEEL DETAIL



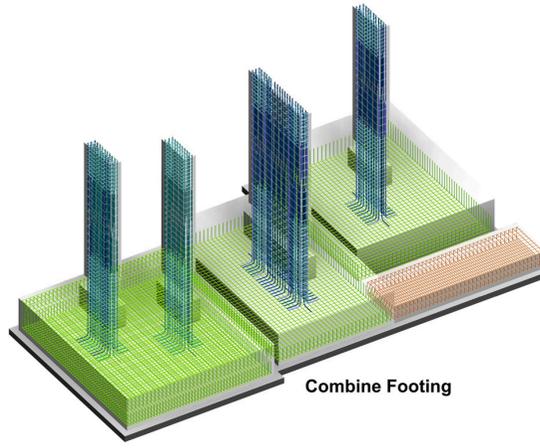
Analytical Model



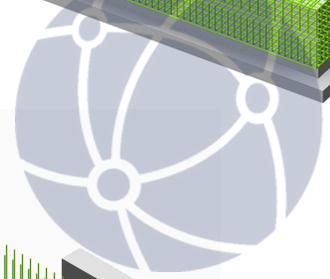
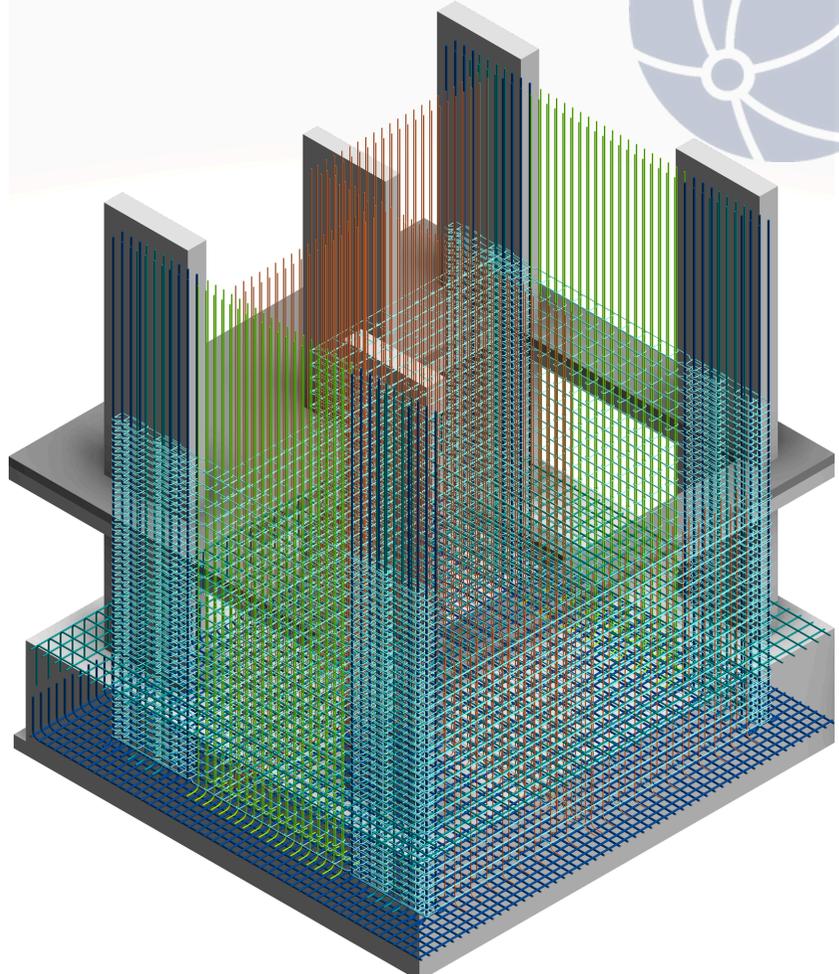
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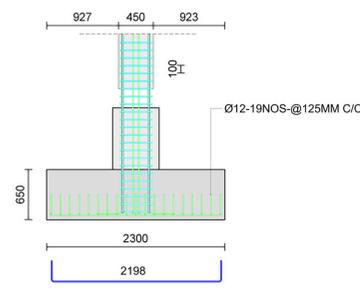
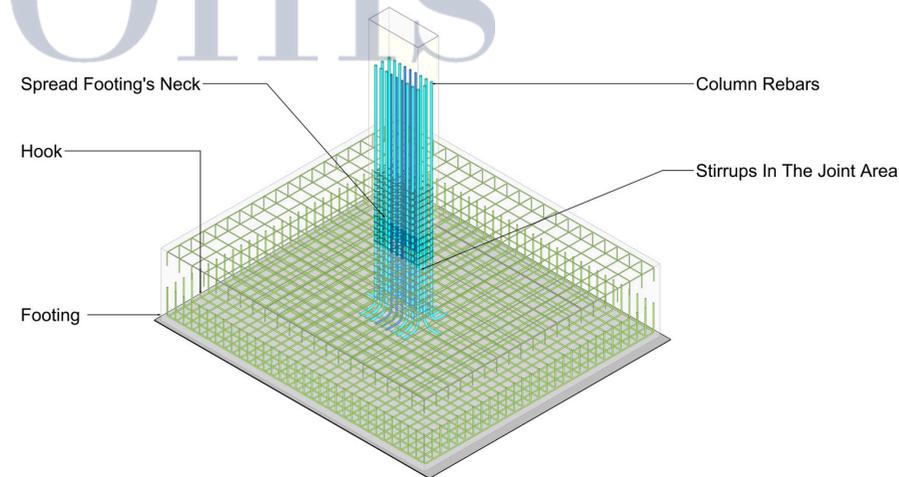
Stair Reinforcement



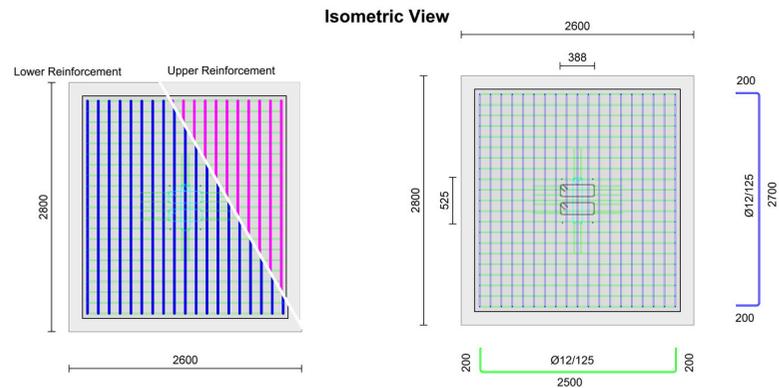
Combine Footing



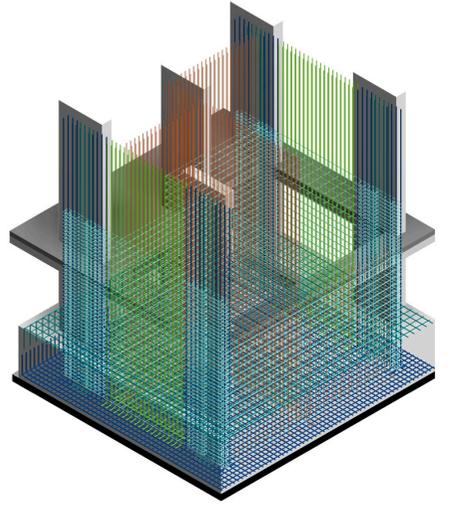
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Reinforcement Detailing



Structural Rebar 2D Plan

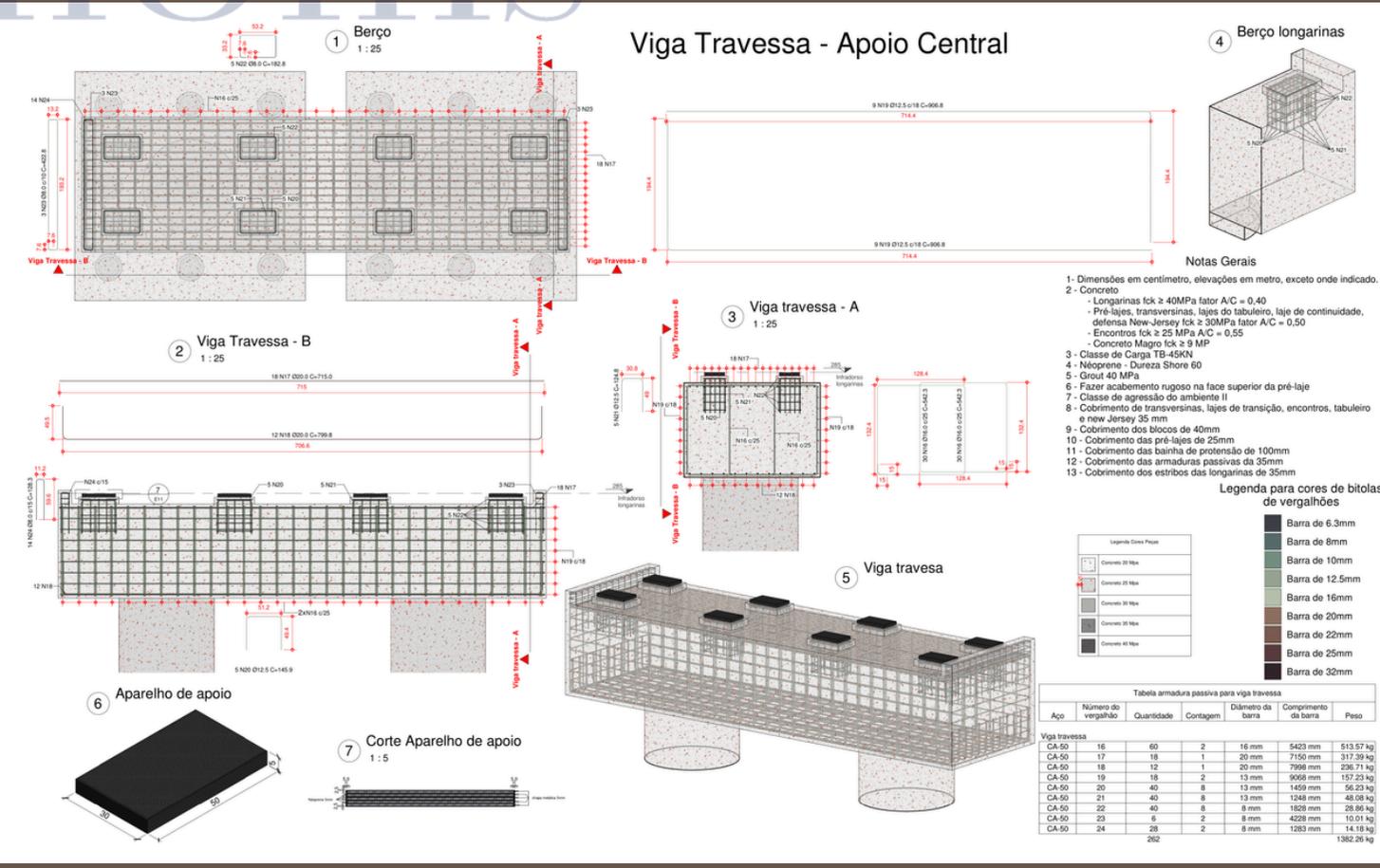
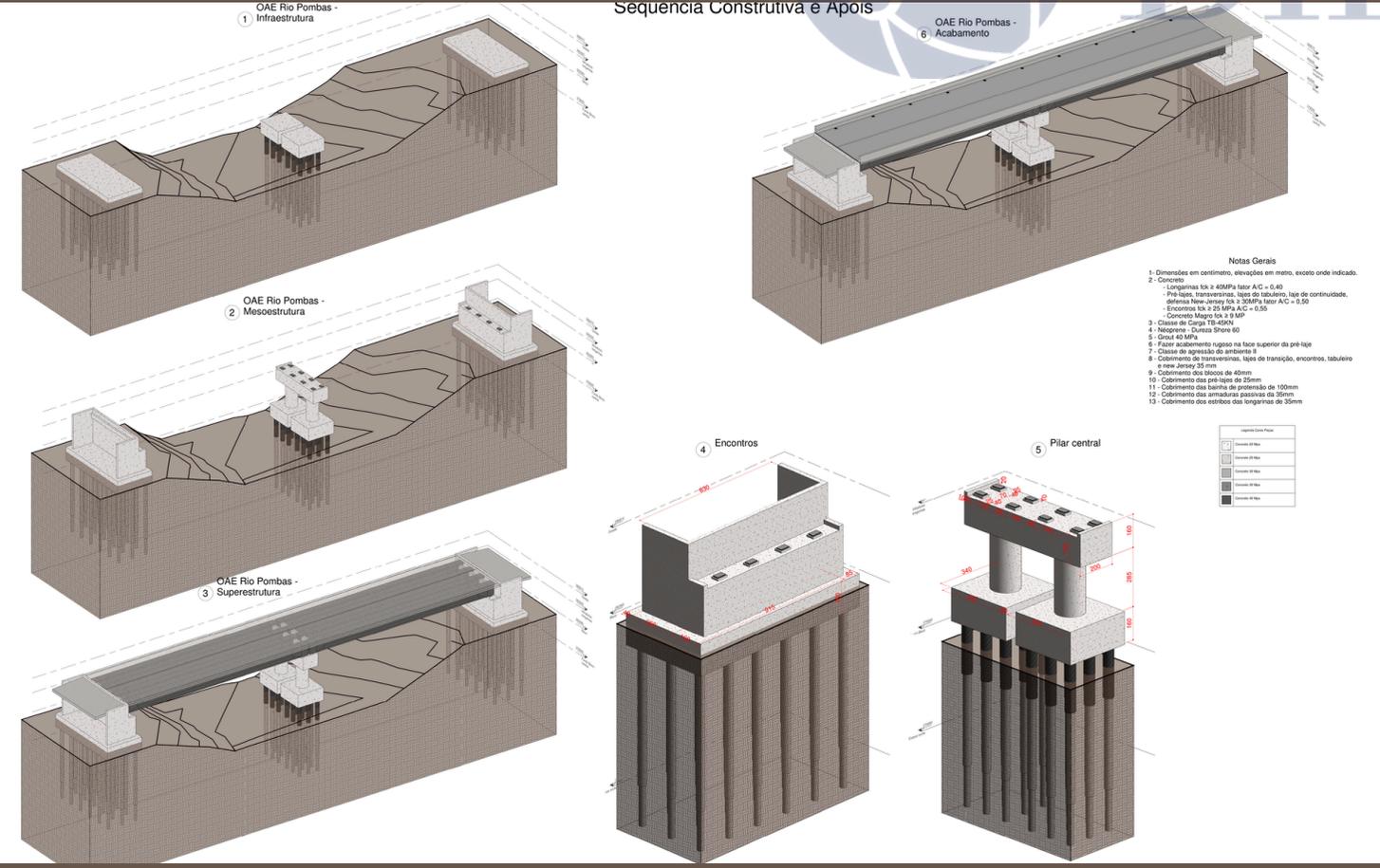
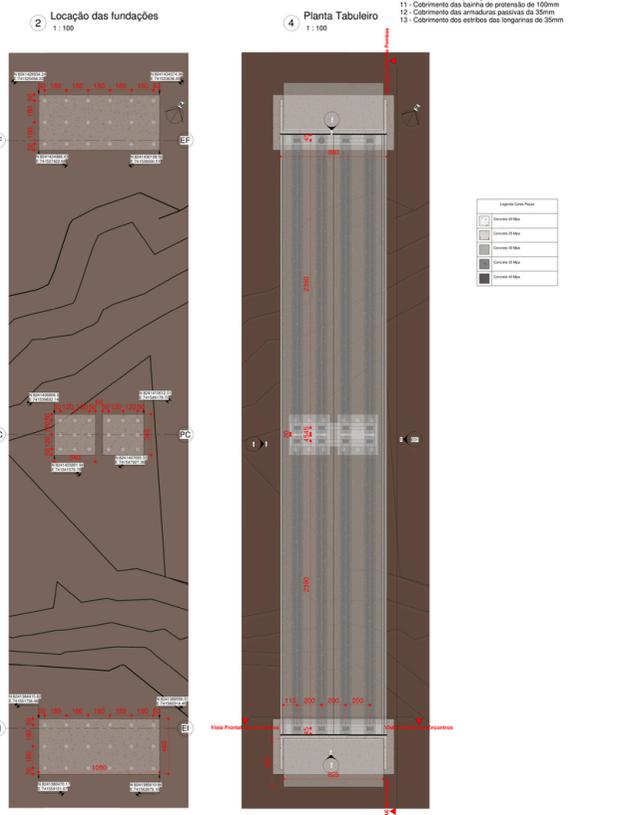
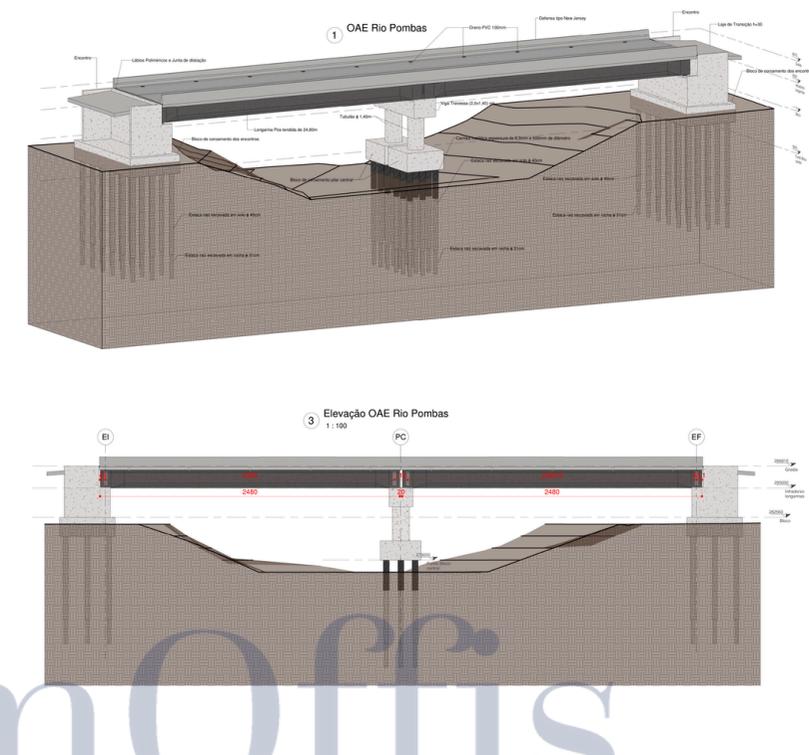
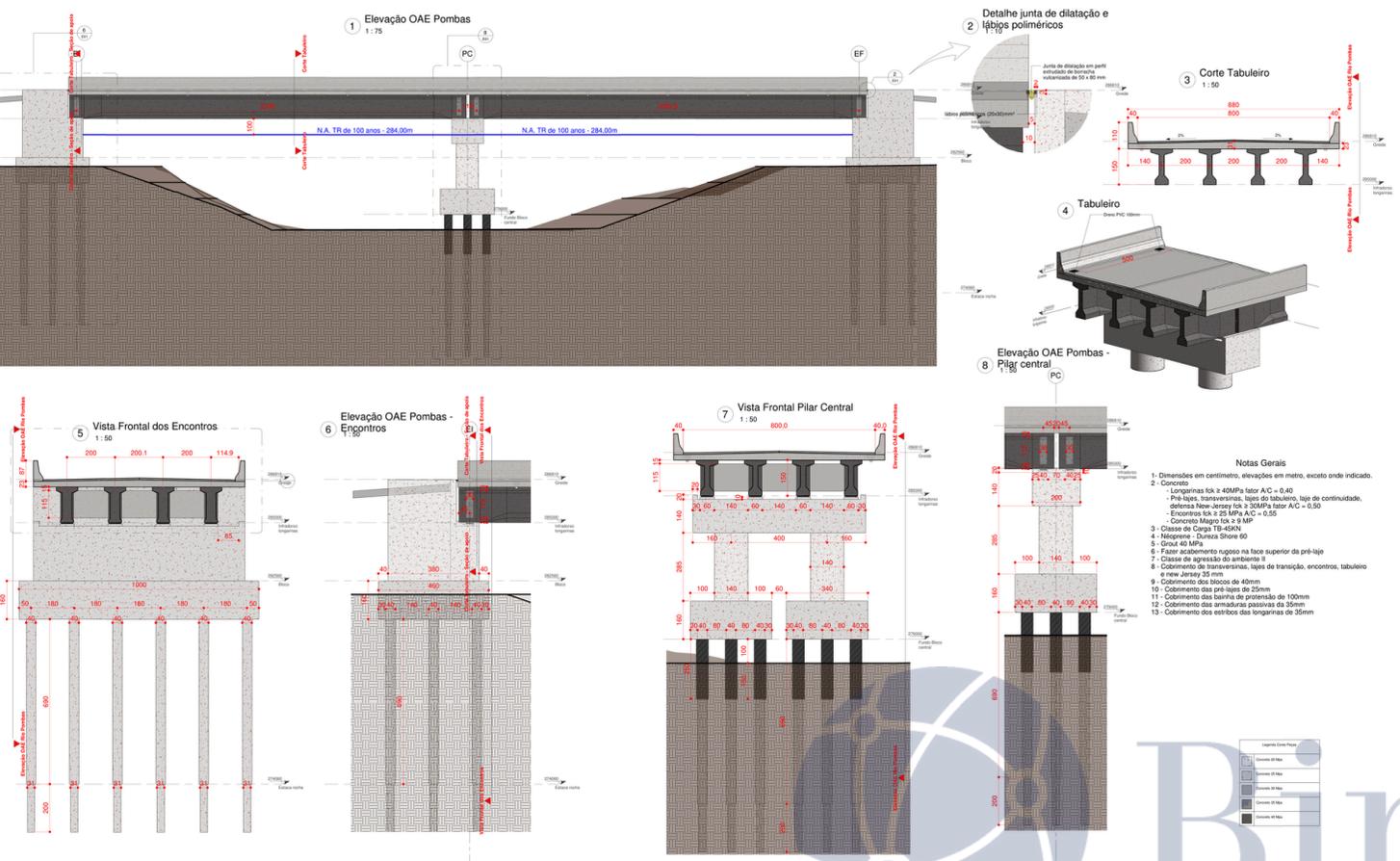


Isometric View Lift Core Structure Rebaring

Infrastructure Details Sheet

OAE Rio das Pobas

- Encostas fck = 25 MPa AC = 0,55
- Concreto Magro fck = 9 MP
- 3 - Classe de Carga TB-45KN
- 4 - Neoprene - Dureza Shore 60
- 5 - Groul 40 MPa
- 6 - Fazer acabamento rugoso na face superior da pré-laje
- 7 - Classe de agressão do ambiente II
- 8 - Cobrimento das transversais, lajes de transição, encontro, tabuleiro e new Jersey 35 mm
- 9 - Cobrimento dos blocos de 40mm
- 10 - Cobrimento das pré-lajes de 25mm
- 11 - Cobrimento da bainha de proteção de 100mm
- 12 - Cobrimento das armaduras passivas de 35mm
- 13 - Cobrimento dos estribos das longarinas de 35mm



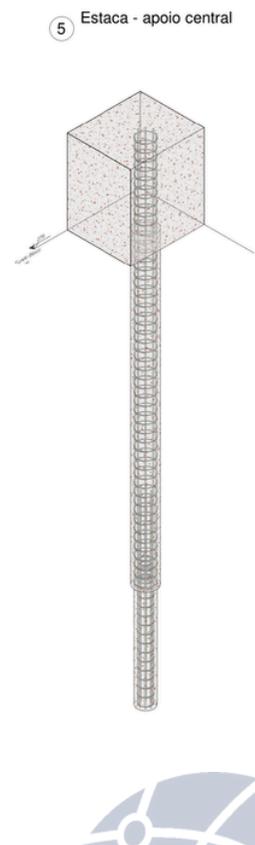
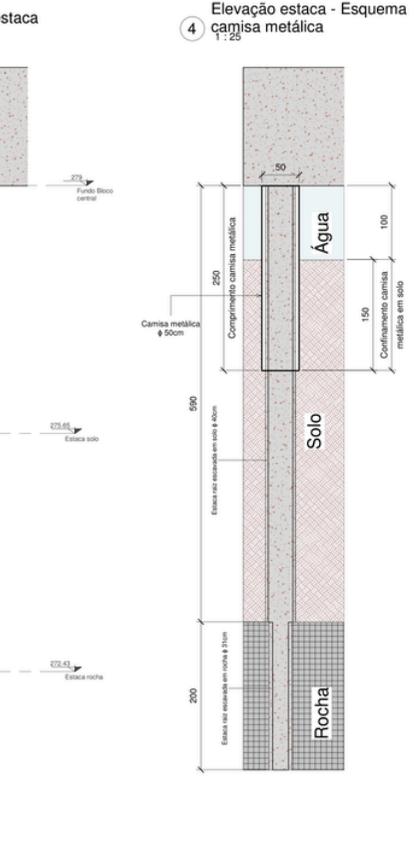
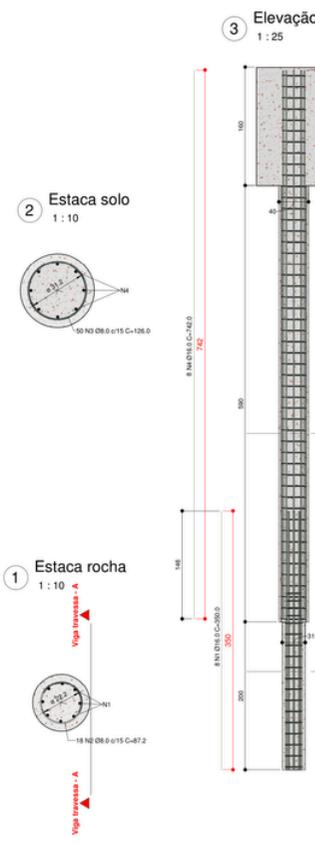


Tabela armadura passiva para estacas (X18)

| Aço | Número do vergalhão | Quantidade | Cortagem | Diâmetro da barra | Comprimento da barra | Peso |
|--------------|---------------------|------------|----------|-------------------|----------------------|--------|
| Estaca rocha | CA-50 | 1 | 8 | 16 mm | 3500 mm | 44.15 |
| | CA-50 | 2 | 18 | 8 mm | 872 mm | 6.15 |
| | | | 20 | | | 50.36 |
| Estaca solo | CA-50 | 3 | 50 | 8 mm | 1260 mm | 24.85 |
| | CA-50 | 4 | 8 | 16 mm | 7420 mm | 83.66 |
| | | | 50 | | | 118.54 |

- #### Notas Gerais
- 1- Dimensões em centímetro, elevações em metro, exceto onde indicado.
 - 2- Concreto
 - Longarinas fck ≥ 40MPa fator A/C = 0,40
 - Pré-lajes, transversinas, lajes do tabuleiro, laje de continuidade, defesa New-Jersey fck ≥ 30MPa fator A/C = 0,50
 - Encontros fck ≥ 25 MPa A/C = 0,55
 - Concreto Magro fck ≥ 9 MP
 - 3- Classe de Carga TB-45KN
 - 4- Néoprene - Dureza Shore 60
 - 5- Grout 40 MPa
 - 6- Fazer acabamento rugoso na face superior da pré-laje
 - 7- Classe de agressão do ambiente II
 - 8- Cobrimento de transversinas, lajes de transição, encontros, tabuleiro e new Jersey 35 mm
 - 9- Cobrimento dos blocos de 40mm
 - 10- Cobrimento das pré-lajes de 25mm
 - 11- Cobrimento das bainha de protensão de 100mm
 - 12- Cobrimento das armaduras passivas da 35mm
 - 13- Cobrimento dos estribos das longarinas de 35mm

Legenda para cores de bitolas de vergalhões

| Legenda Cores Países | Legenda Cores Países |
|----------------------|----------------------|
| Concreto 20 Mpa | Barra de 6.3mm |
| Concreto 25 Mpa | Barra de 8mm |
| Concreto 30 Mpa | Barra de 10mm |
| Concreto 35 Mpa | Barra de 12.5mm |
| Concreto 40 Mpa | Barra de 16mm |
| | Barra de 20mm |
| | Barra de 22mm |
| | Barra de 25mm |
| | Barra de 32mm |

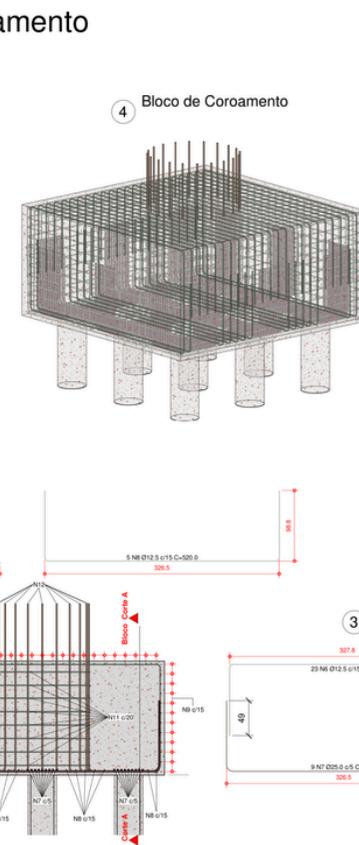
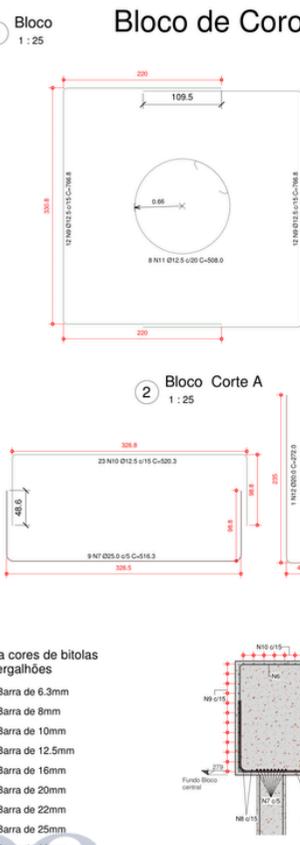
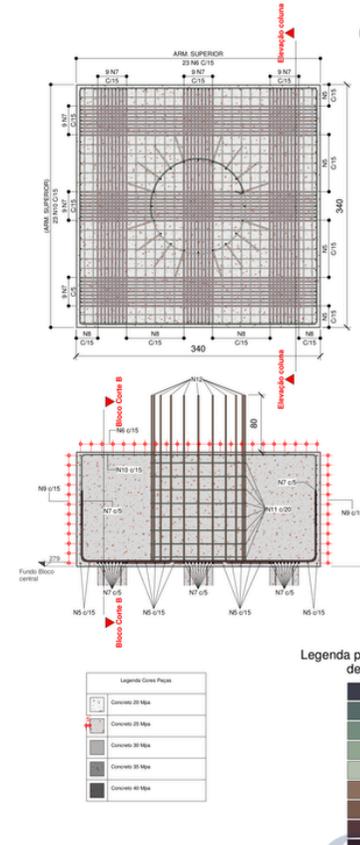


Tabela armadura passiva para bloco (X2)

| Aço | Número do vergalhão | Quantidade | Cortagem | Diâmetro da barra | Comprimento da barra | Peso |
|-------|---------------------|------------|----------|-------------------|----------------------|------------|
| CA-50 | 5 | 4 | 2 | 13 mm | 5225 mm | 20.13 kg |
| CA-50 | 5 | 10 | 2 | 13 mm | 5225 mm | 50.34 kg |
| CA-50 | 6 | 23 | 1 | 13 mm | 5245 mm | 116.22 kg |
| CA-50 | 7 | 54 | 6 | 25 mm | 5163 mm | 1074.27 kg |
| CA-50 | 8 | 4 | 2 | 13 mm | 5200 mm | 20.04 kg |
| CA-50 | 8 | 10 | 2 | 13 mm | 5200 mm | 50.10 kg |
| CA-50 | 9 | 24 | 2 | 13 mm | 7666 mm | 177.28 kg |
| CA-50 | 10 | 23 | 1 | 13 mm | 5203 mm | 115.29 kg |
| CA-50 | 11 | 8 | 1 | 13 mm | 5080 mm | 39.15 kg |
| CA-50 | 12 | 20 | 20 | 20 mm | 2720 mm | 134.14 kg |
| | | | 180 | | | 1796.97 kg |

- #### Notas Gerais
- 1- Dimensões em centímetro, elevações em metro, exceto onde indicado.
 - 2- Concreto
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 - Encontros fck ≥ 25 MPa A/C = 0,55
 - Concreto Magro fck ≥ 9 MP
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 - 4- Néoprene - Dureza Shore 60
 - 5- Grout 40 MPa
 - 6- Fazer acabamento rugoso na face superior da pré-laje
 - 7- Classe de agressão do ambiente II
 - 8- Cobrimento de transversinas, lajes de transição, encontros, tabuleiro e new Jersey 35 mm
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 - 10- Cobrimento das pré-lajes de 25mm
 - 11- Cobrimento das bainha de protensão de 100mm
 - 12- Cobrimento das armaduras passivas da 35mm
 - 13- Cobrimento dos estribos das longarinas de 35mm

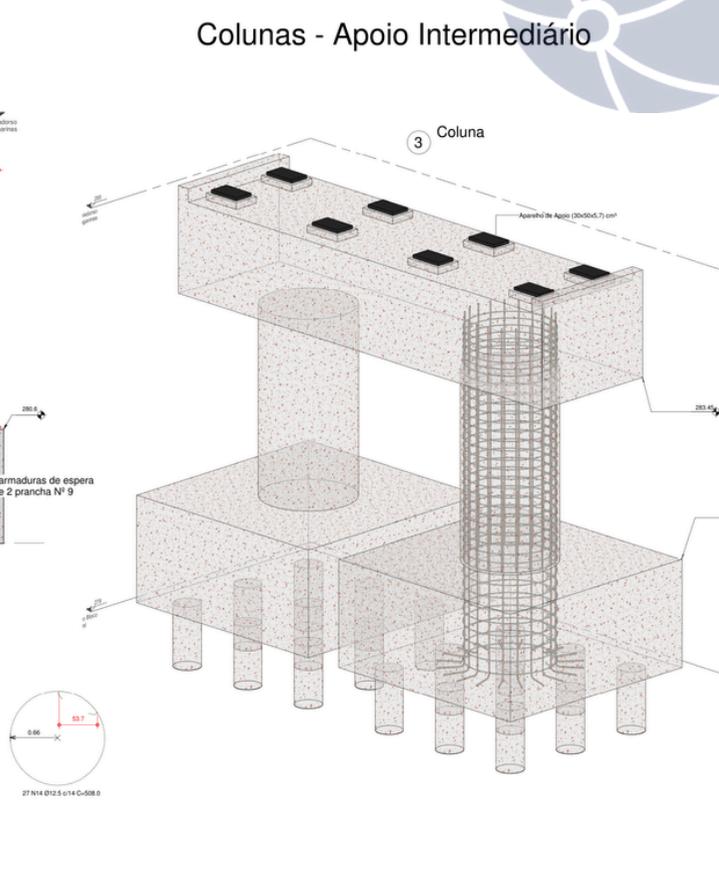
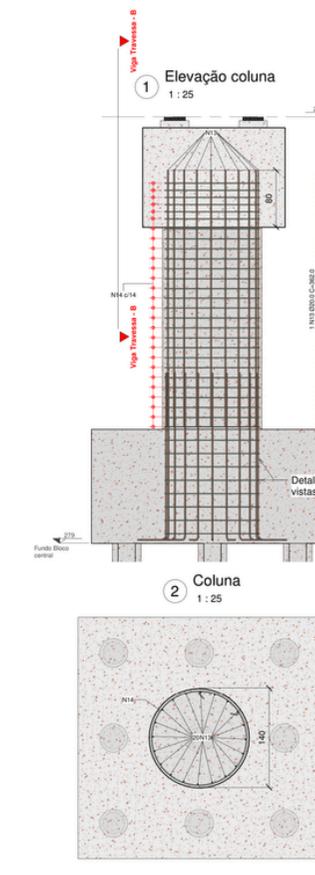


Tabela armadura passiva para coluna (X2)

| Aço | Número do vergalhão | Quantidade | Cortagem | Diâmetro da barra | Comprimento da barra | Peso |
|--------|---------------------|------------|----------|-------------------|----------------------|-----------|
| Coluna | CA-50 | 13 | 20 | 20 mm | 3620 mm | 178.54 kg |
| | CA-50 | 14 | 27 | 13 mm | 5080 mm | 132.14 kg |
| | | | 47 | | | 310.68 kg |

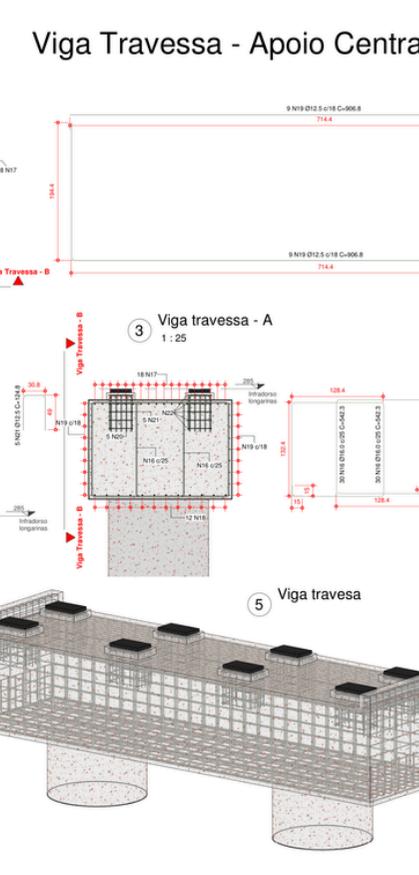
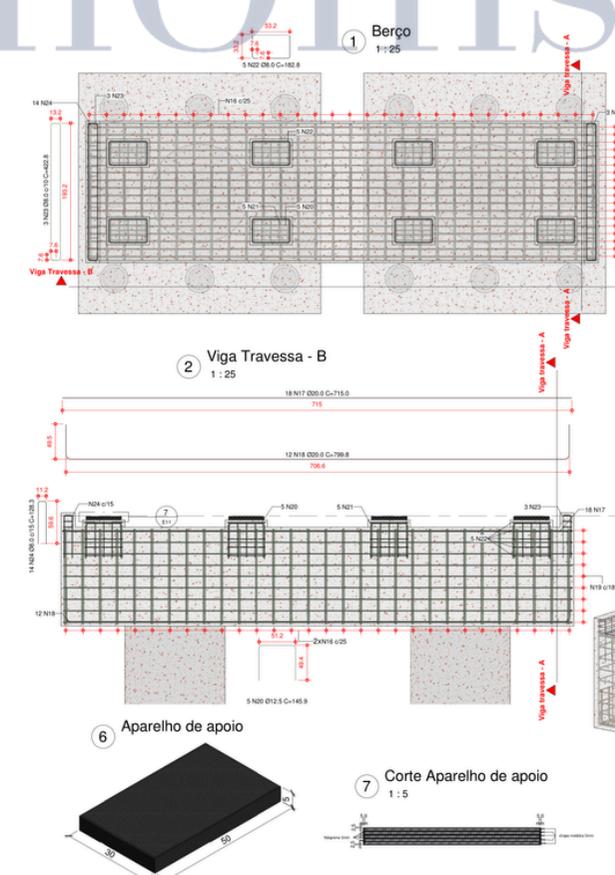
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 - 3- Classe de Carga TB-45KN
 - 4- Néoprene - Dureza Shore 60
 - 5- Grout 40 MPa
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 - 7- Classe de agressão do ambiente II
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 - 9- Cobrimento dos blocos de 40mm
 - 10- Cobrimento das pré-lajes de 25mm
 - 11- Cobrimento das armaduras passivas da 35mm
 - 13- Cobrimento dos estribos das longarinas de 35mm

Legenda para cores de bitolas de vergalhões

| Legenda Cores Países | Legenda Cores Países |
|----------------------|----------------------|
| Concreto 20 Mpa | Barra de 6.3mm |
| Concreto 25 Mpa | Barra de 8mm |
| Concreto 30 Mpa | Barra de 10mm |
| Concreto 35 Mpa | Barra de 12.5mm |
| Concreto 40 Mpa | Barra de 16mm |
| | Barra de 20mm |
| | Barra de 22mm |
| | Barra de 25mm |
| | Barra de 32mm |

Diâmetro dos pinos de Dodramento

| Bitola | CA-25 | CA-50 | CA-60 |
|---------|-------|-------|-------|
| < 20 mm | 4φ | 5φ | 4φ |
| > 20 mm | 5φ | 8φ | - |



- #### Notas Gerais
- 1- Dimensões em centímetro, elevações em metro, exceto onde indicado.
 - 2- Concreto
 - Longarinas fck ≥ 40MPa fator A/C = 0,40
 - Pré-lajes, transversinas, lajes do tabuleiro, laje de continuidade, defesa New-Jersey fck ≥ 30MPa fator A/C = 0,50
 - Encontros fck ≥ 25 MPa A/C = 0,55
 - Concreto Magro fck ≥ 9 MP
 - 3- Classe de Carga TB-45KN
 - 4- Néoprene - Dureza Shore 60
 - 5- Grout 40 MPa
 - 6- Fazer acabamento rugoso na face superior da pré-laje
 - 7- Classe de agressão do ambiente II
 - 8- Cobrimento de transversinas, lajes de transição, encontros, tabuleiro e new Jersey 35 mm
 - 9- Cobrimento dos blocos de 40mm
 - 10- Cobrimento das pré-lajes de 25mm
 - 11- Cobrimento das bainha de protensão de 100mm
 - 12- Cobrimento das armaduras passivas da 35mm
 - 13- Cobrimento dos estribos das longarinas de 35mm

Tabela armadura passiva para viga travessa

| Aço | Número do vergalhão | Quantidade | Cortagem | Diâmetro da barra | Comprimento da barra | Peso | |
|---------------|---------------------|------------|----------|-------------------|----------------------|---------|------------|
| Viga travessa | CA-50 | 16 | 60 | 2 | 16 mm | 5423 mm | 513.57 kg |
| | CA-50 | 17 | 18 | 1 | 20 mm | 7150 mm | 317.39 kg |
| | CA-50 | 18 | 12 | 1 | 20 mm | 7968 mm | 236.71 kg |
| | CA-50 | 19 | 18 | 2 | 13 mm | 9068 mm | 157.23 kg |
| | CA-50 | 20 | 40 | 8 | 13 mm | 1459 mm | 56.23 kg |
| | CA-50 | 21 | 40 | 8 | 13 mm | 1248 mm | 48.08 kg |
| | CA-50 | 22 | 40 | 8 | 8 mm | 1829 mm | 28.86 kg |
| | CA-50 | 23 | 6 | 2 | 8 mm | 4529 mm | 102.01 kg |
| | CA-50 | 24 | 28 | 2 | 8 mm | 1283 mm | 14.18 kg |
| | | | | | | 202 | 1382.26 kg |



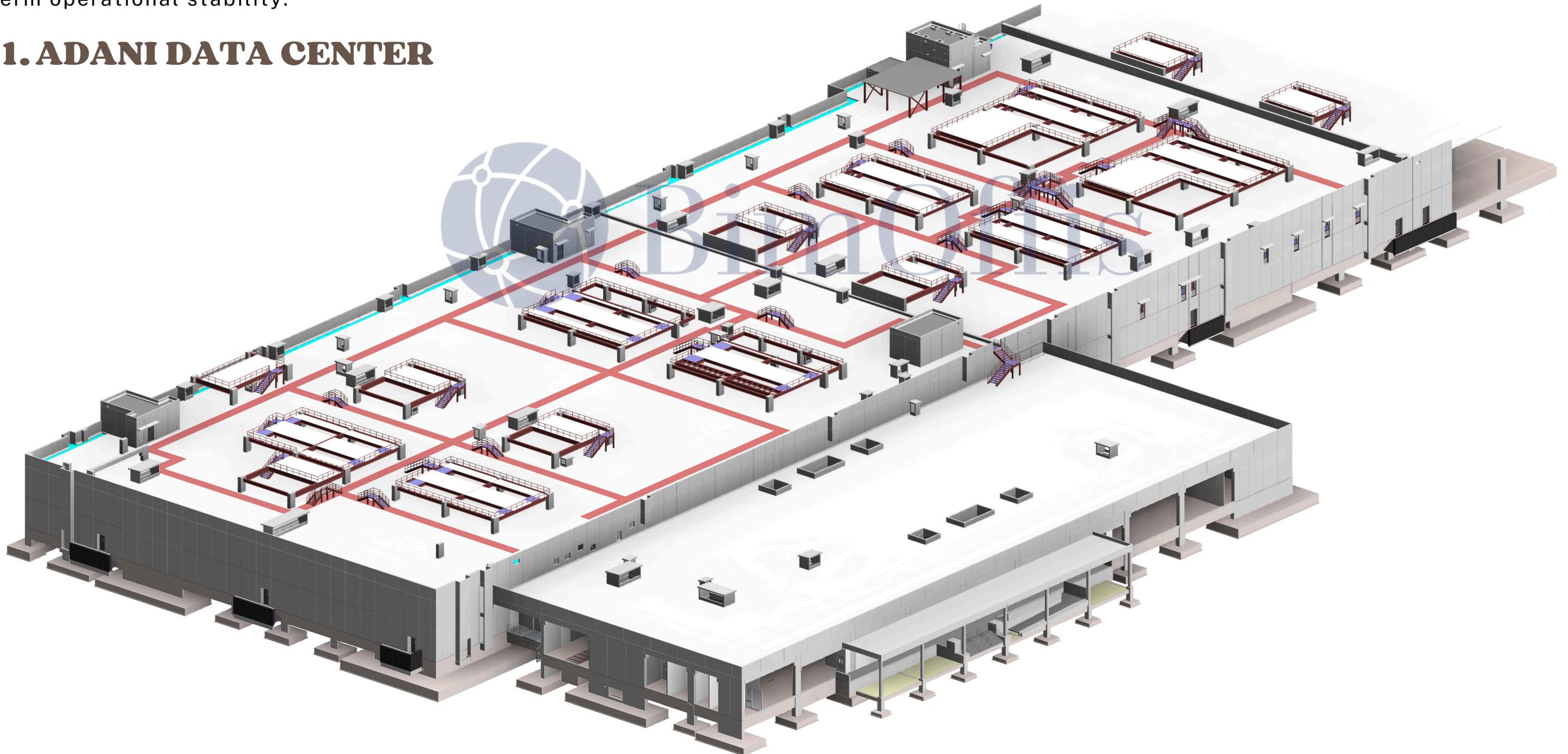
Industrial & Specialized Buildings Project

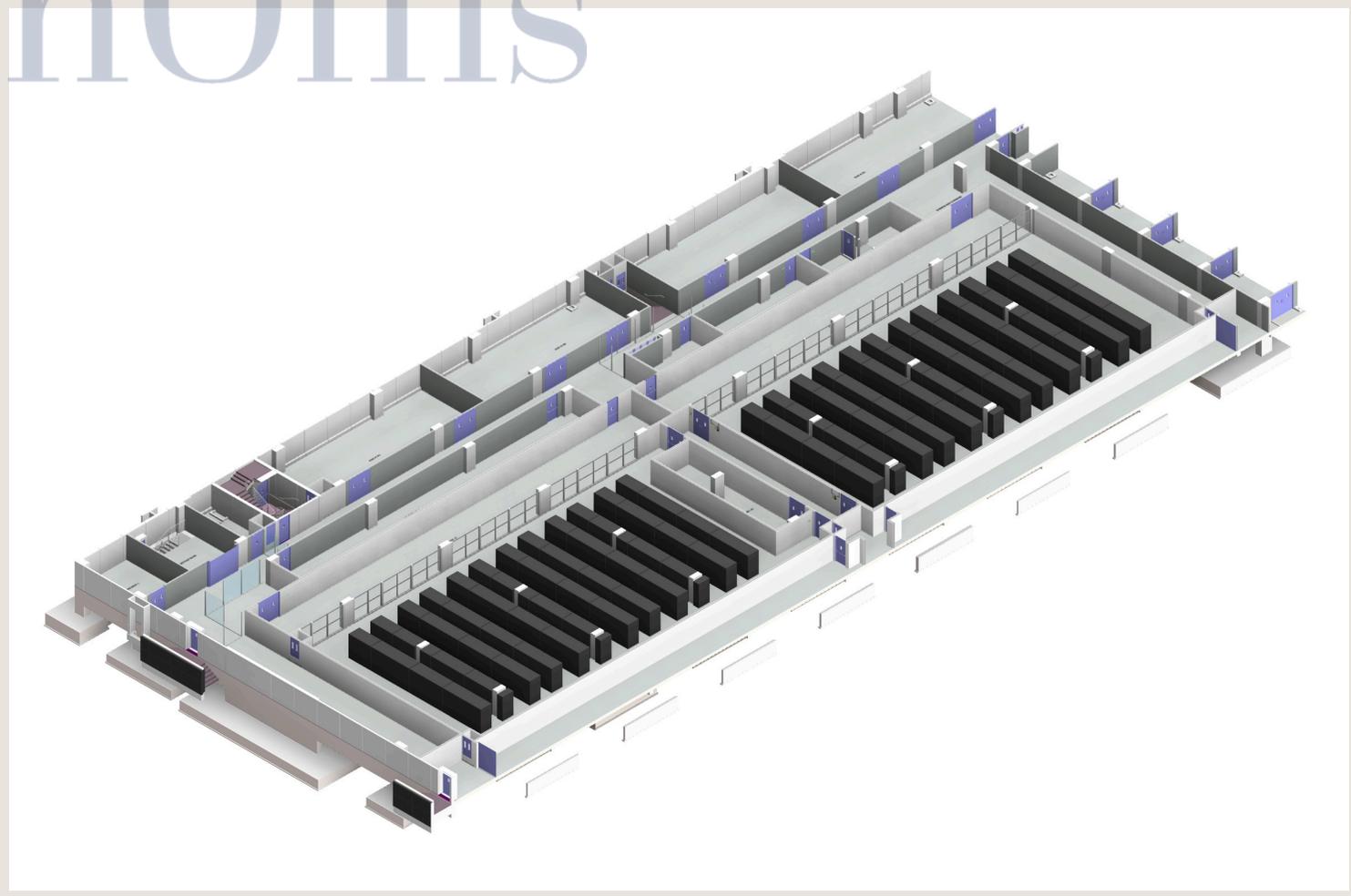
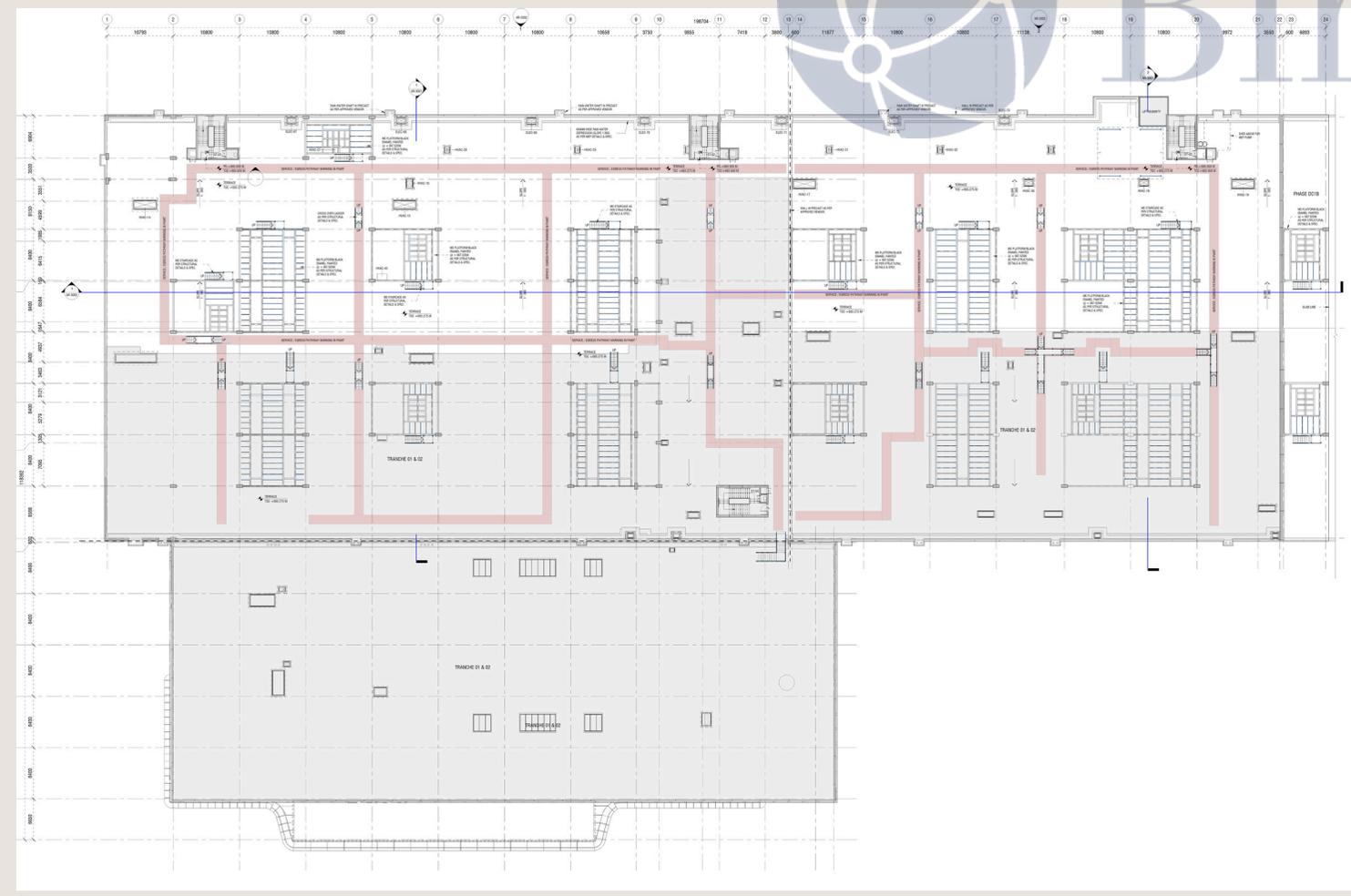
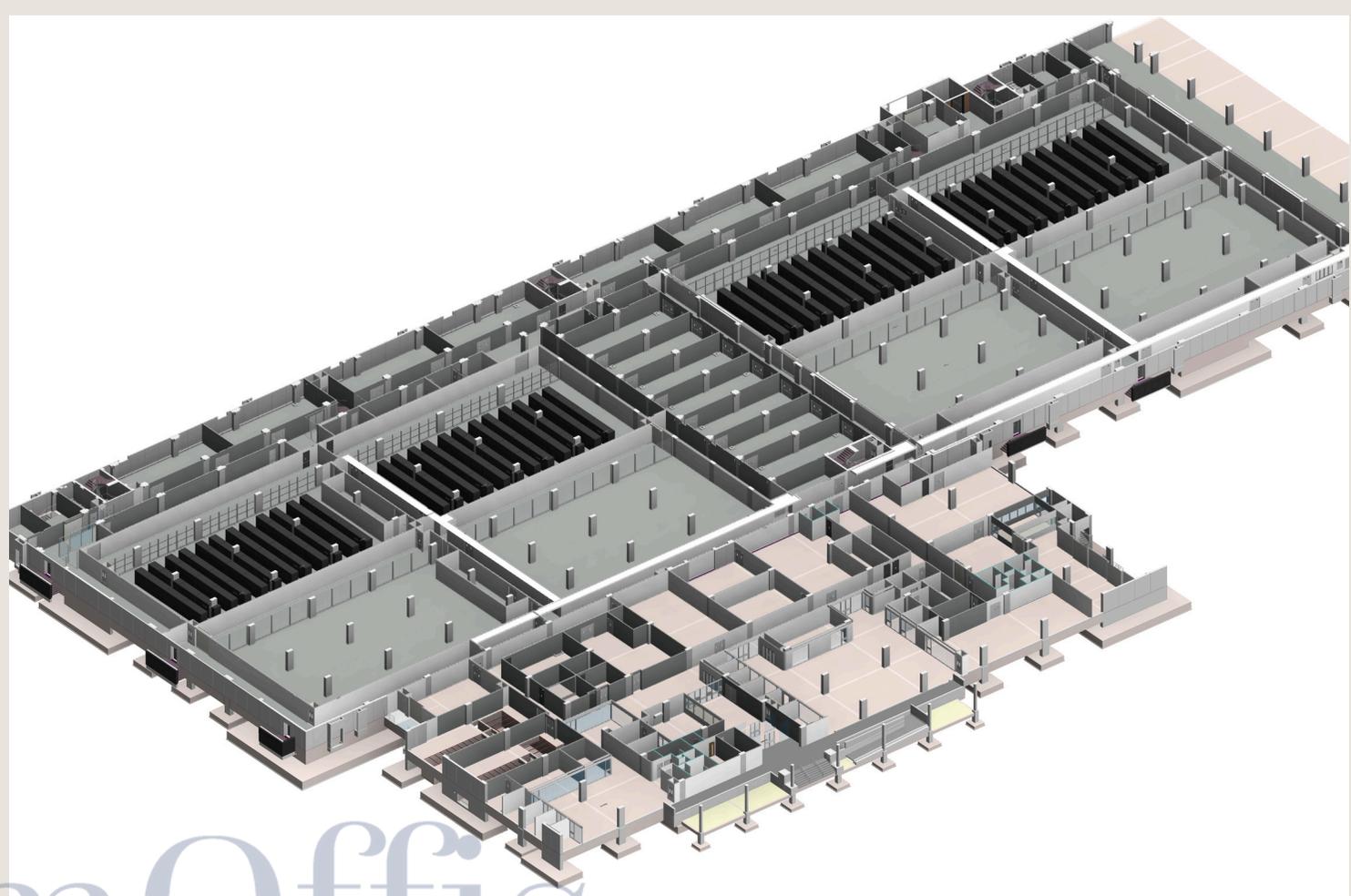
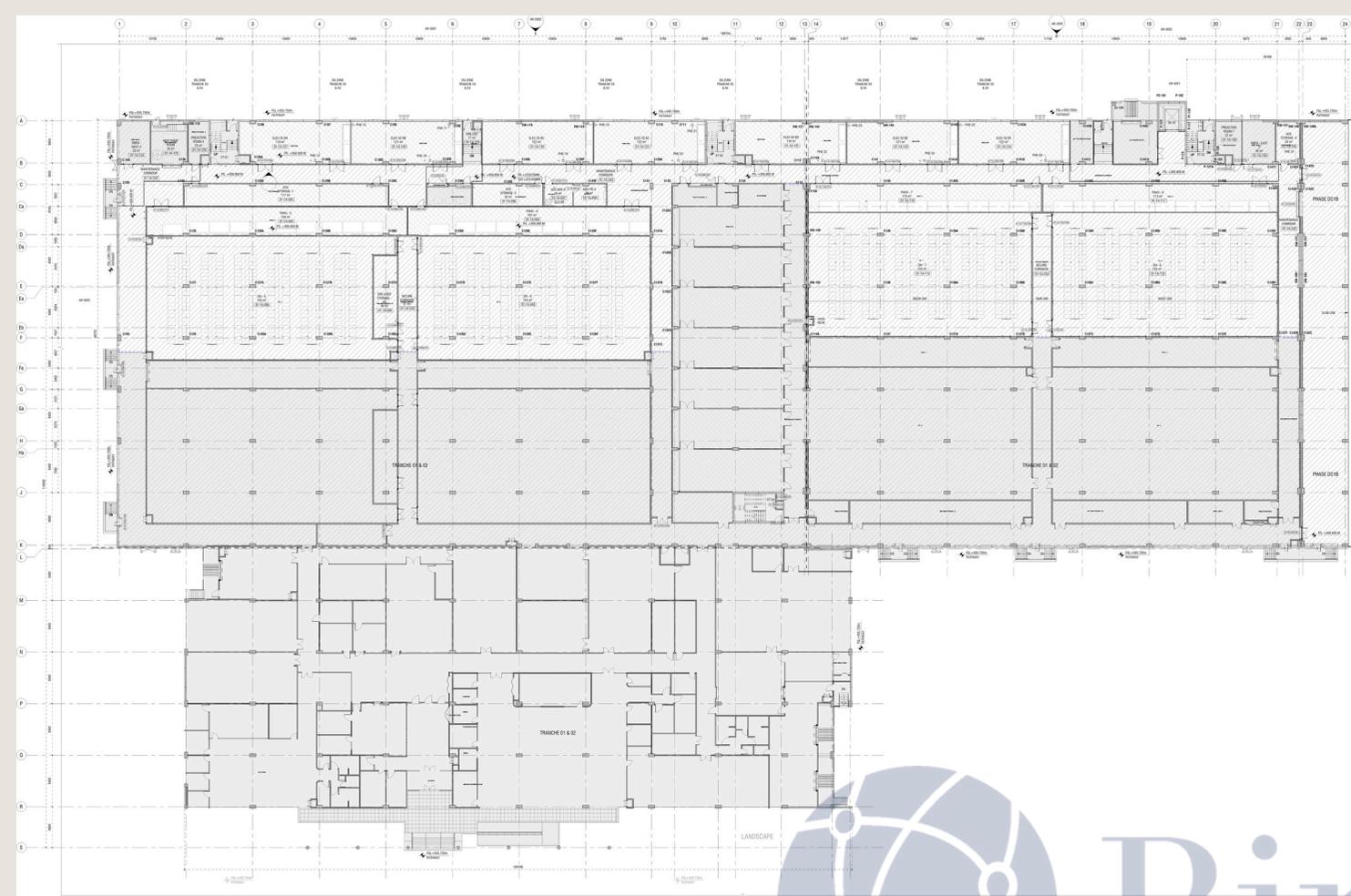
Industrial and specialized buildings require structural BIM models that can accommodate heavy loads, equipment foundations, and process-driven layouts.

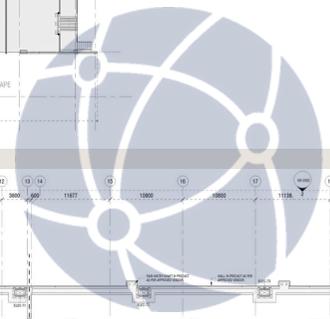
We develop structural BIM models that accurately represent industrial framing, equipment supports, foundations, and load transfer systems.

The models support coordination with architectural layouts, MEP systems, and process equipment, enabling safe construction and long-term operational stability.

1. ADANI DATA CENTER





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Infrastructure & Transportation Facilities Projects

Structural BIM for infrastructure facilities focuses on large-scale structural components, phased construction, and integration with civil works.

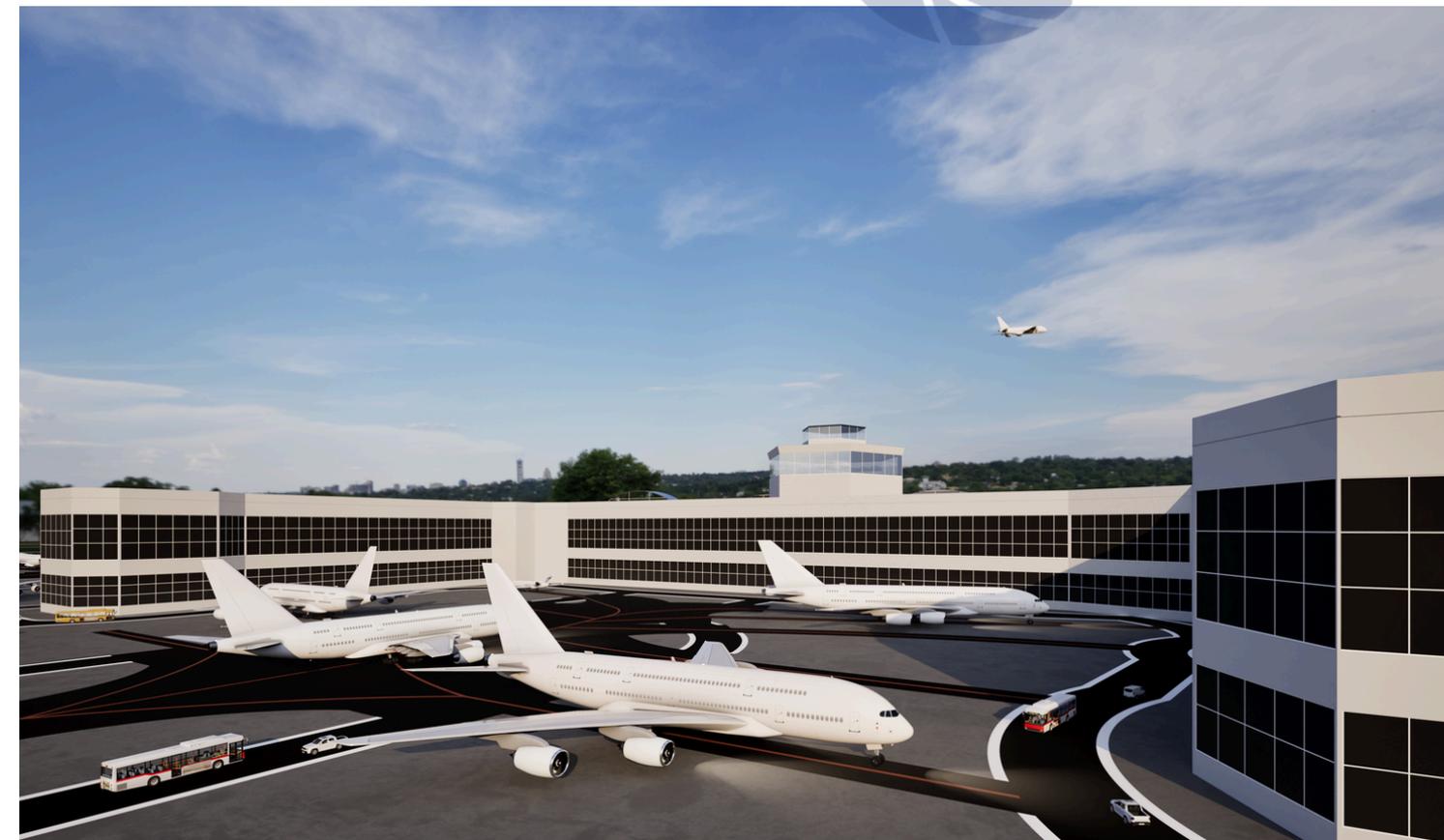
We model primary and secondary structural systems for terminals, stations, and support structures with a focus on constructability and lifecycle reliability.

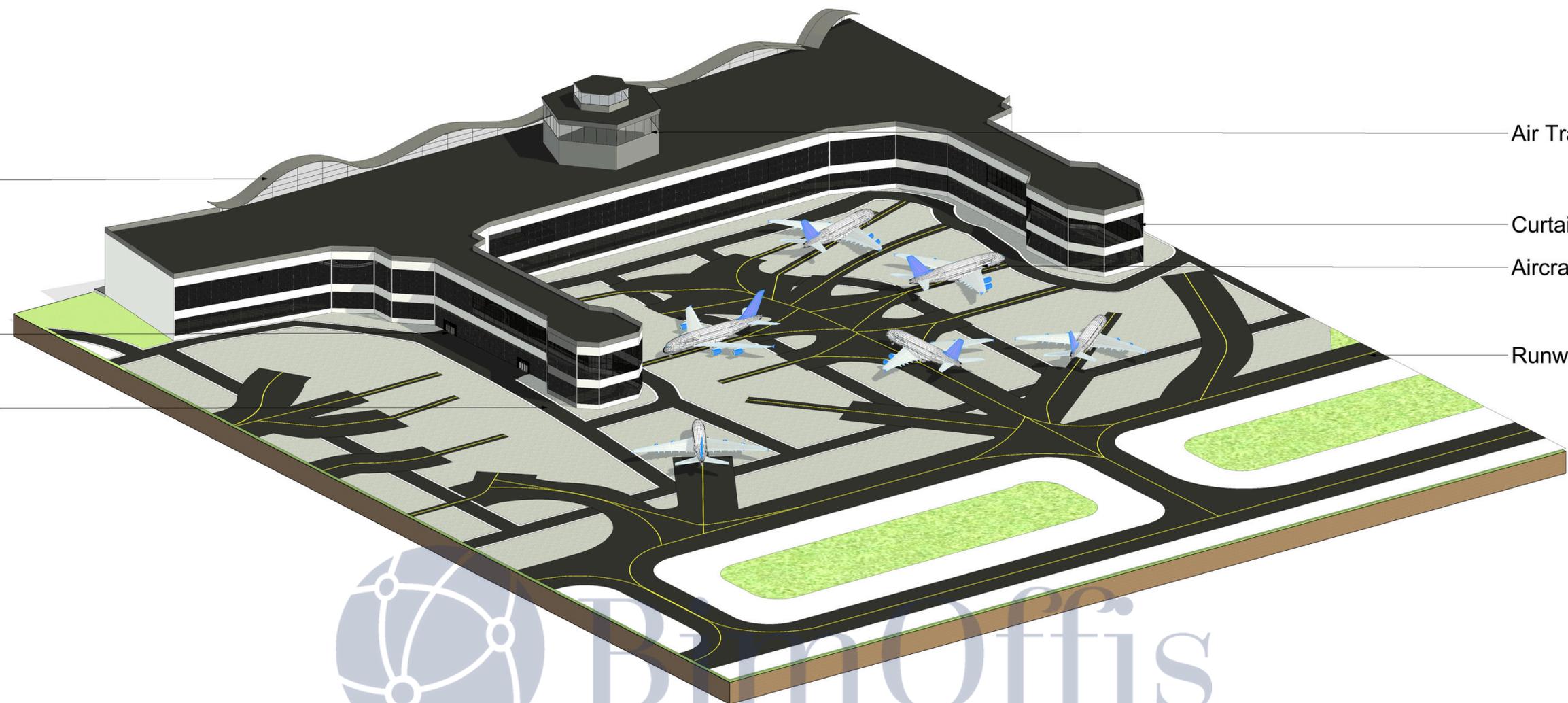
These models serve as dependable references for construction, coordination, and long-term infrastructure management.

1. International Airport



Bimioffis





Facade Roof

Arrival Gates

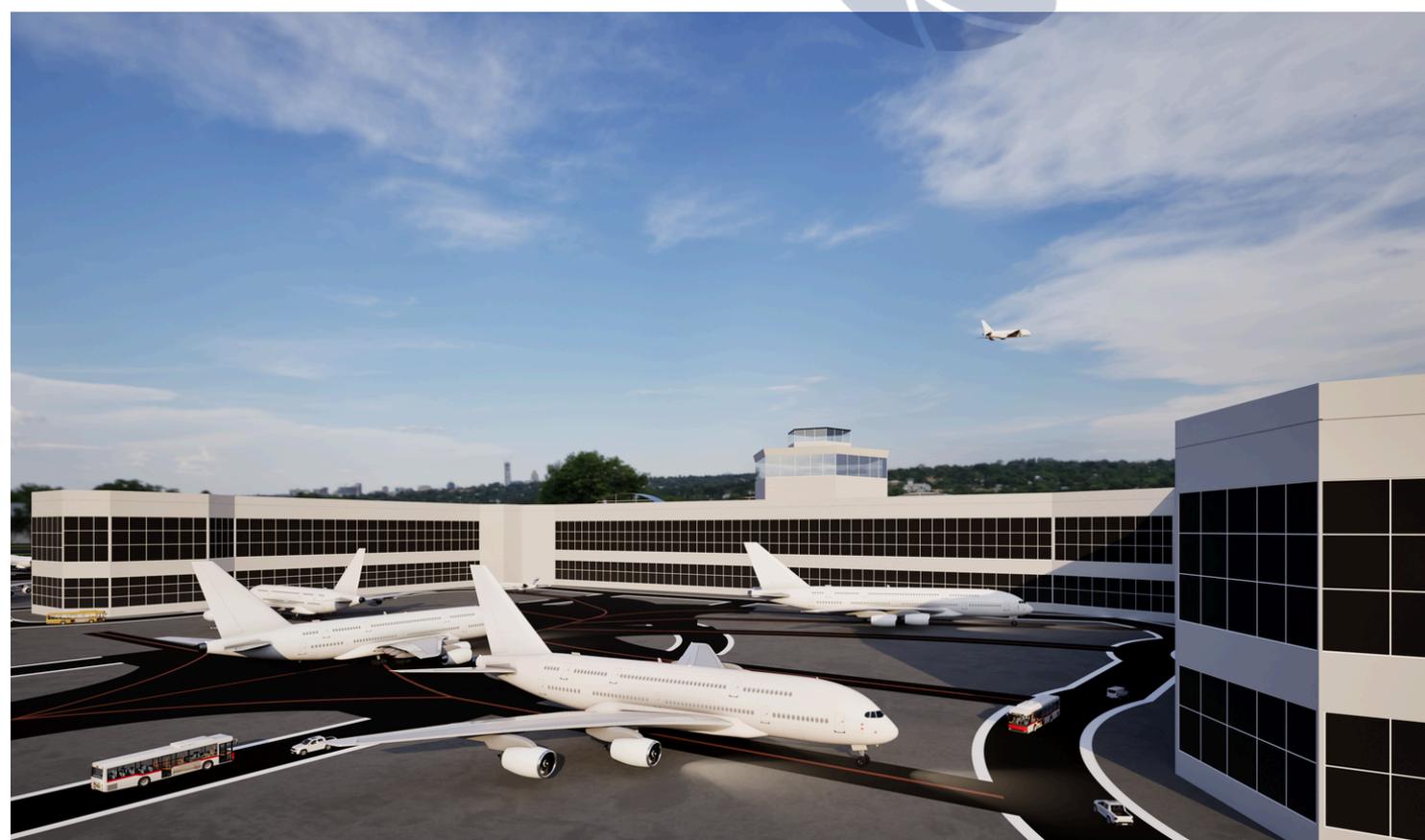
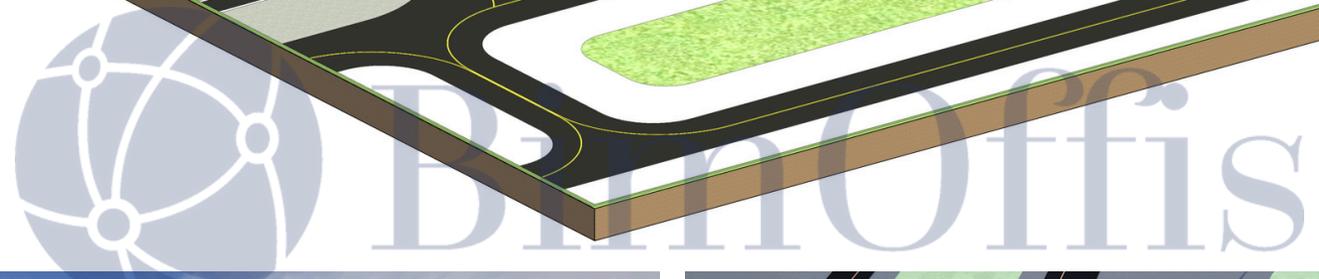
Taxiway

Air Traffic Control Tower

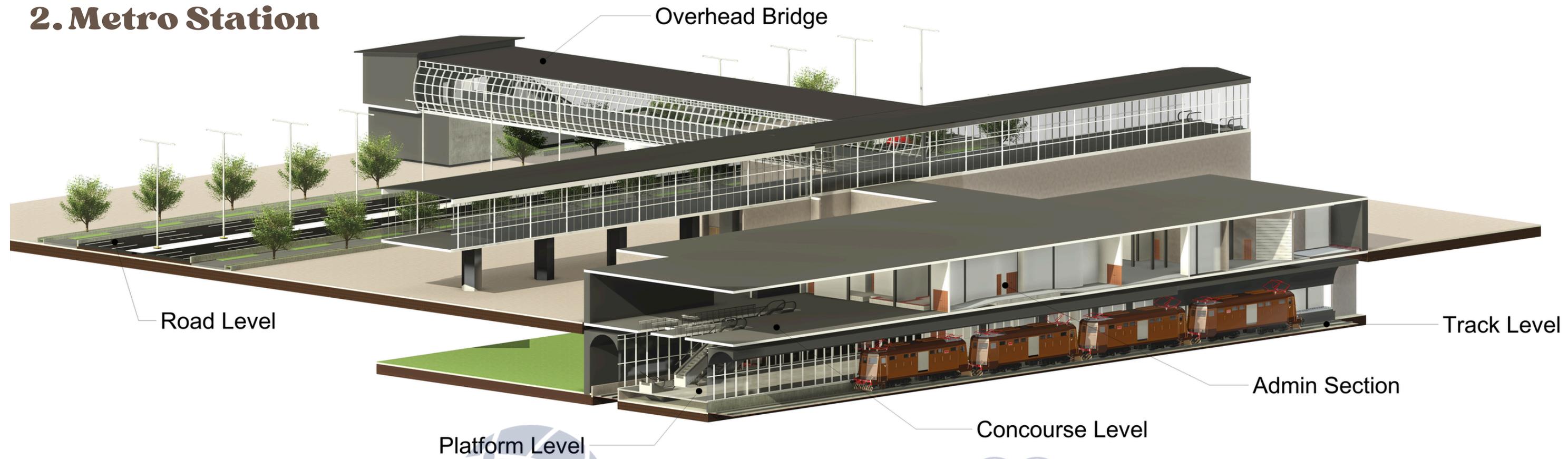
Curtain Panel

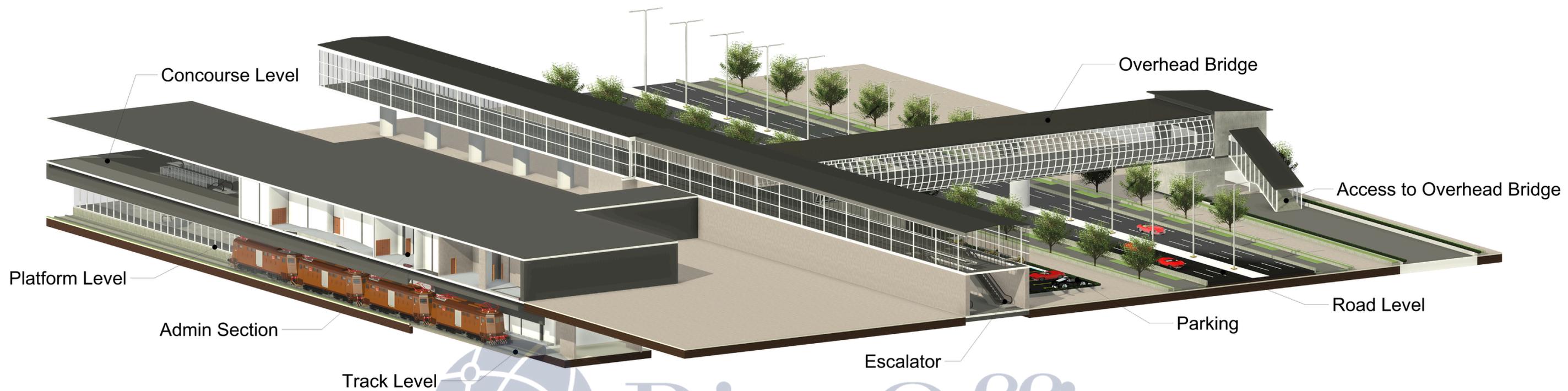
Aircraft Parking

Runway

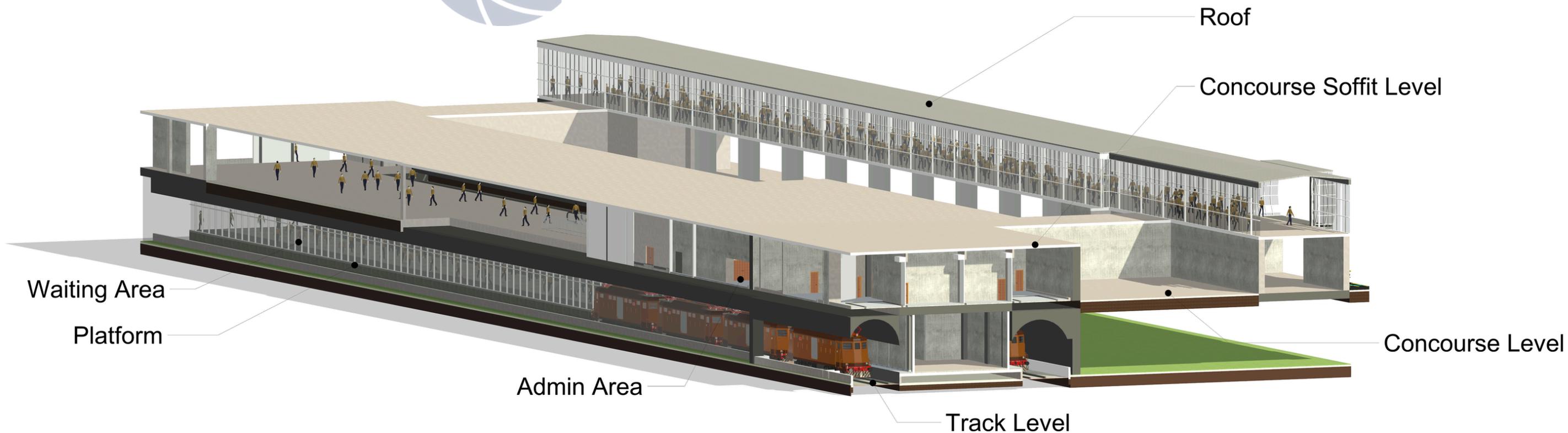


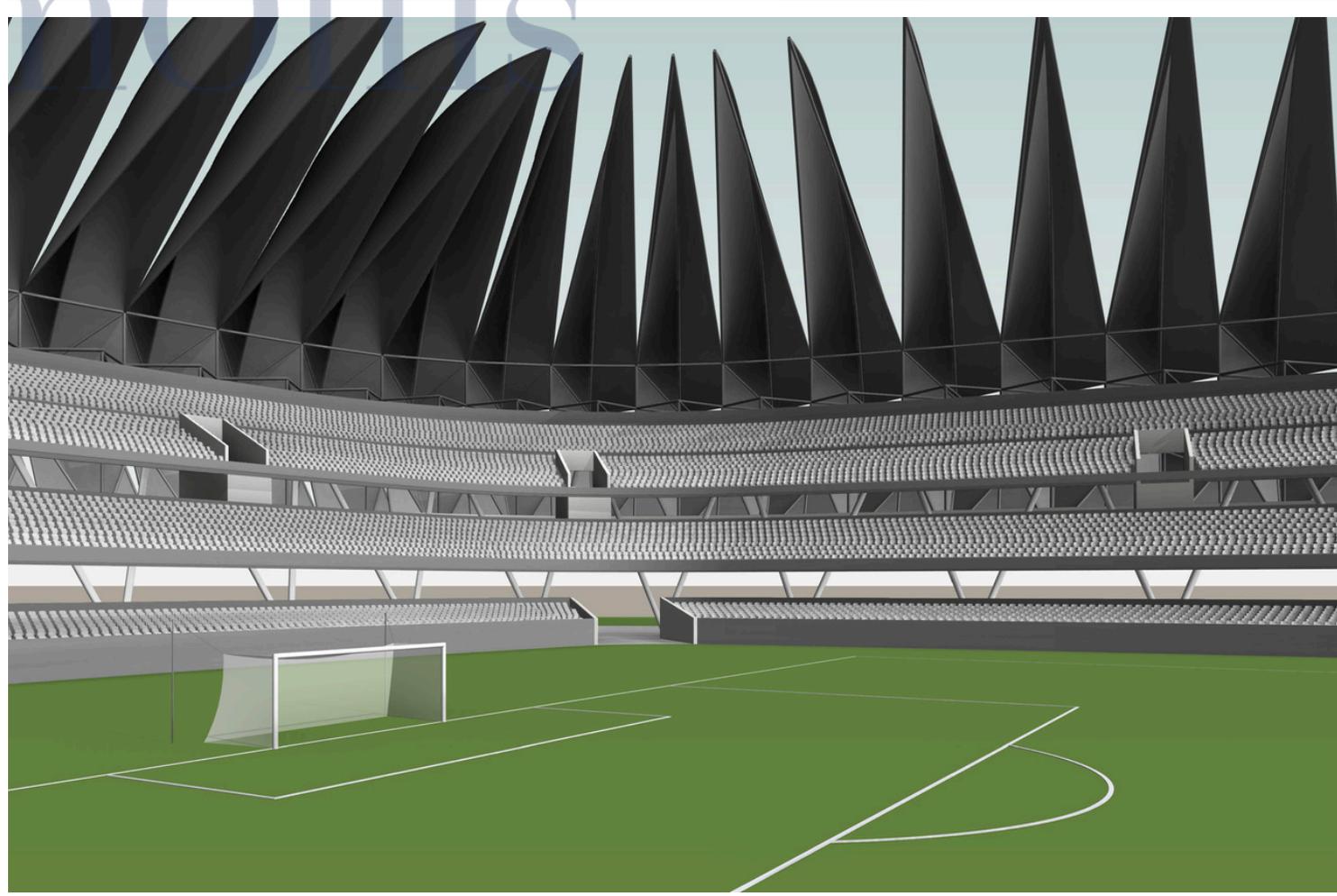
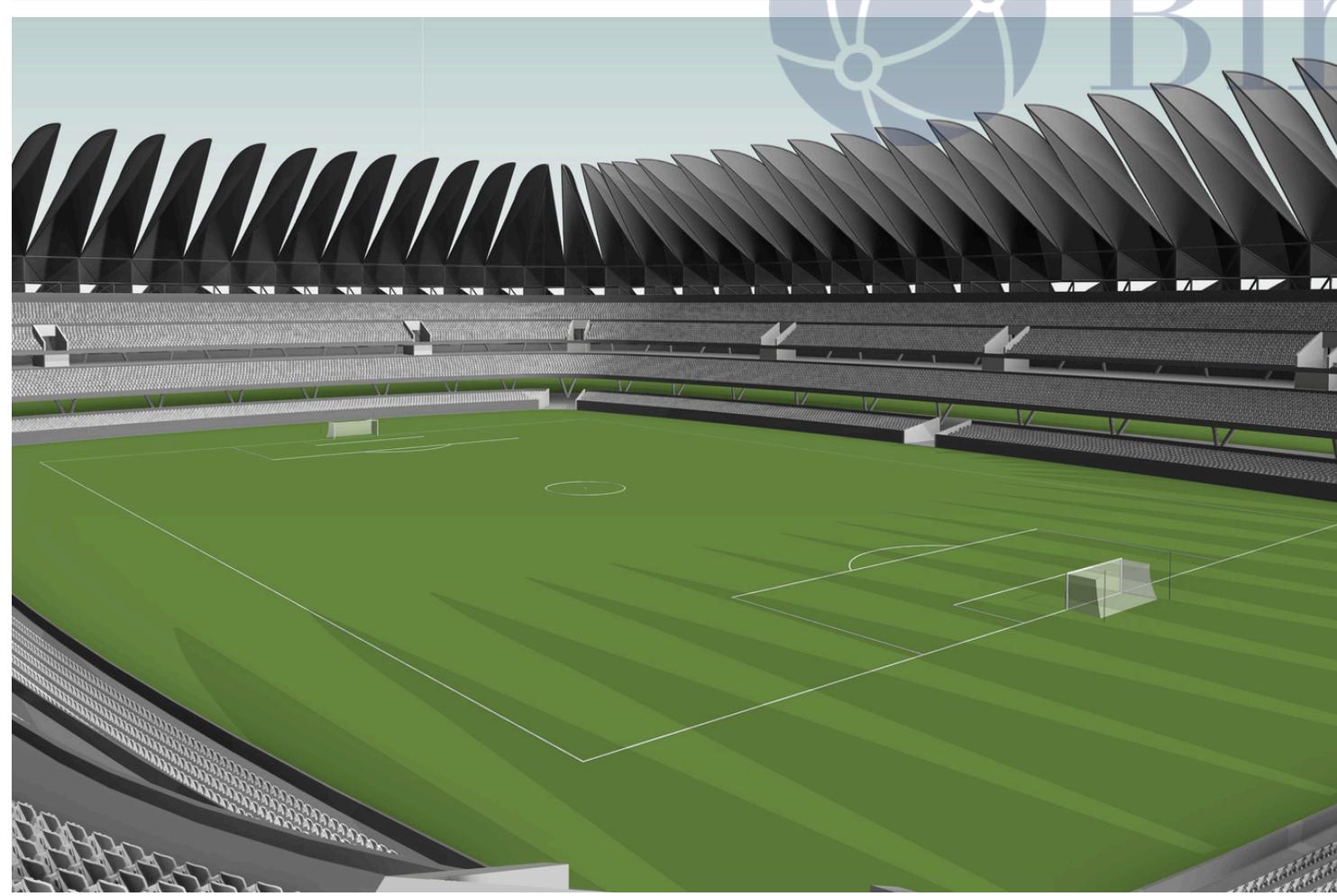
2. Metro Station





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