Structural Engineering Services



PRIMETECH

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Overview

PrimeTech is a design and engineering company with extensive experience in **structural** design and consultancy services, in Nigeria spanning over a decade.

Our **Structural Department** provides structural design and consultancy services for a wide range of industrial, commercial, residential and healthcare buildings, as well as for civil engineering structures such as bridges and marine facilities.

Our design ensures sound technical performance, integrity, safety and durability of all structures under anticipated loads.

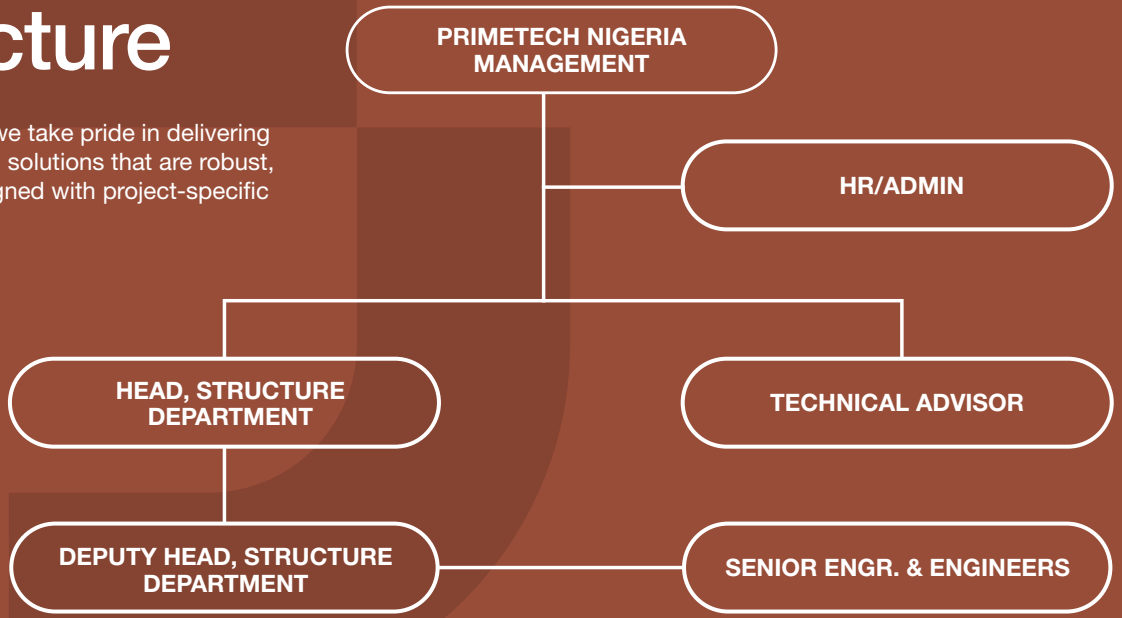


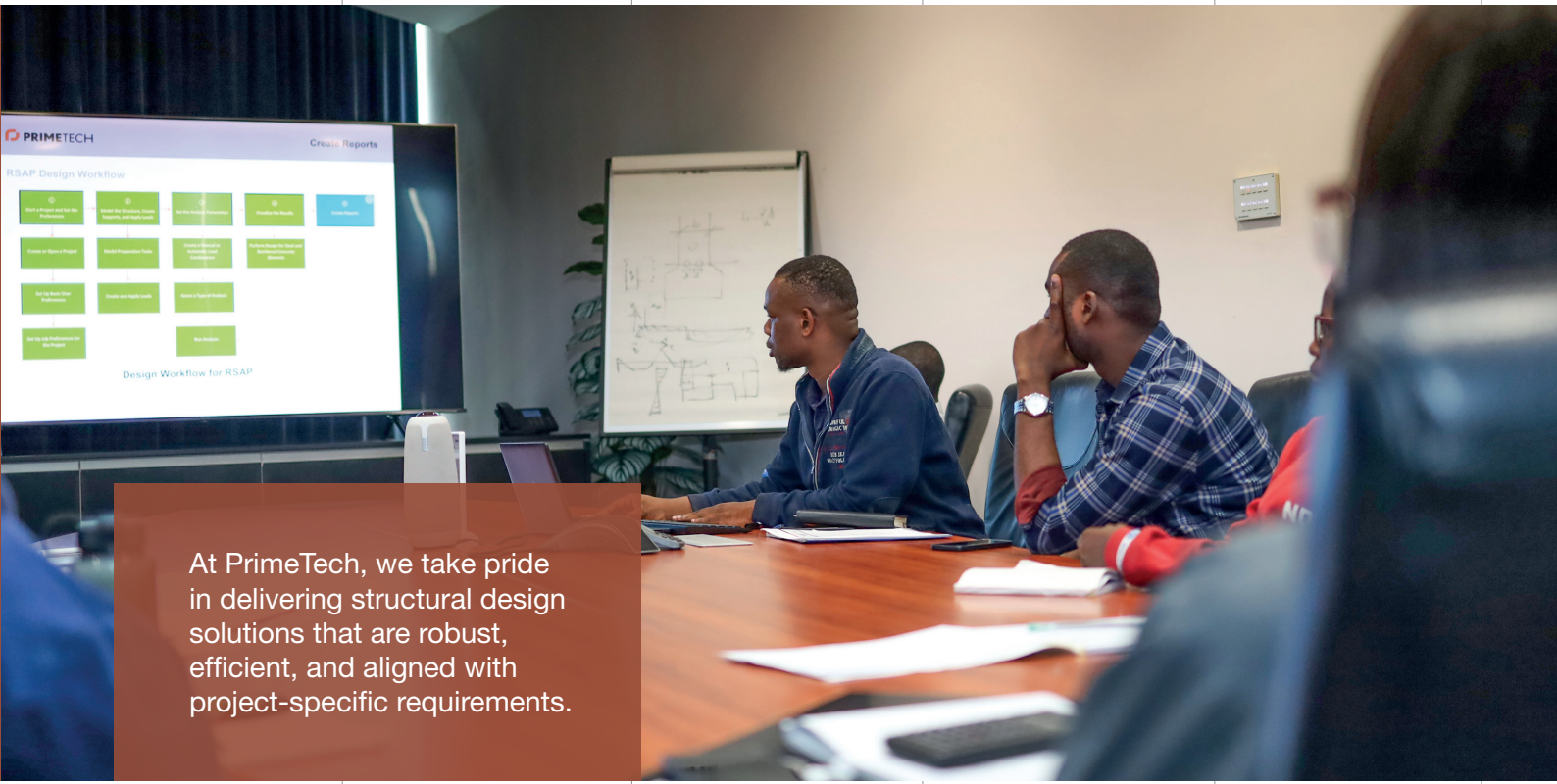
Prime*Tech's vision is to be the design and engineering partner of choice in Nigeria by securing clients' success through excellence and value.*



Structure

At **Prime**Tech, we take pride in delivering structural design solutions that are robust, efficient, and aligned with project-specific requirements.





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Corporate Culture



PRECISION

Thorough preparation, carefully planned design & engineering solutions, structured processes and pinpoint execution



PARTNERSHIP

Mutually agreed, ambitious but realistic goals achieved through utmost value for professional and collaborative cooperation



INNOVATION

Development of creative solutions and continuous upgrade of technical capacities and support facilities



QUALITY

Balancing aesthetics, function, environment, human, and economic considerations to find solutions



INVESTED

Committed to project goals, staff and community development



EMPLOYEE DRIVEN

Quality delivery cycle beginning and thriving upon employee-related policies



RESPECT

Stimulating respect to boost productivity, collaboration, fairness and employee satisfaction, which extends to clients and partners

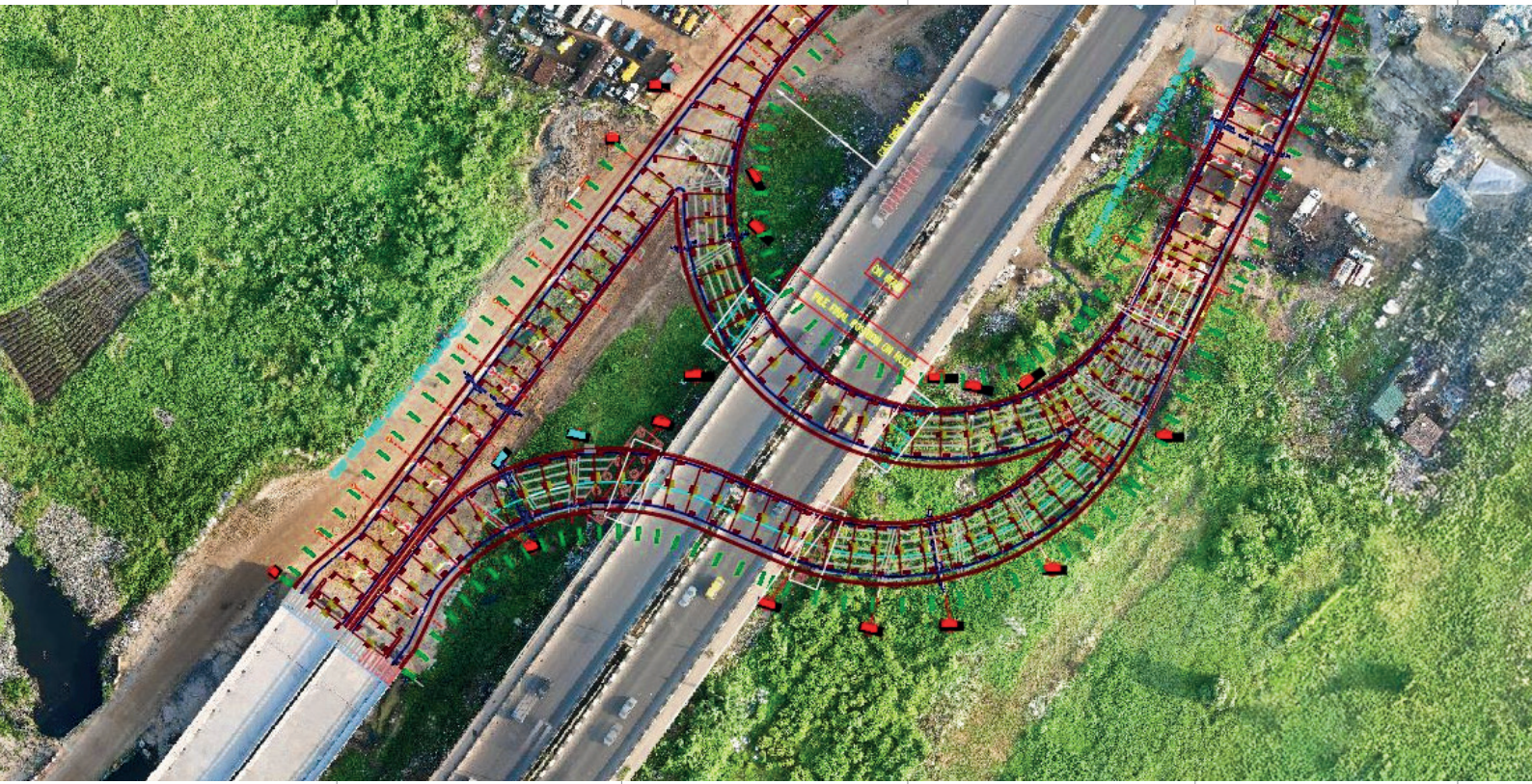
Technological Edge – Structures + BIM



Our integration of BIM technology supports:

- Parametric 3D modelling of structures
- Clash detection with MEP and architectural components
- Construction sequencing and scheduling
- 4D simulation
- Precise quantity take-off

Our BIM-based design methodology ensures early problem-solving, eliminates design conflicts, while also aiding seamless stakeholder communication.



Our Tools - Autodesk Suite



AutoCAD
Industry-standard software for 2D & 3D drafting and detailed engineering documentation.



Revit
Powerful Building Information Modelling (BIM) software used to plan, design, construct, and manage building projects in an integrated digital environment.



Navisworks Manage
Advanced model integration and 4D simulation software used for clash detection, construction sequencing, and multidisciplinary coordination.



Advance Steel
3D modelling software specialized in detailed steel structure design, fabrication, and documentation.



BIM 360 / BIM Collaborate Pro
Cloud-based design collaboration and coordination platform for AEC teams, enabling real-time co-authoring in Revit, Civil 3D, and AutoCAD Plant 3D.



Robot Structural Analysis Professional
A BIM-integrated tool for advanced structural analysis, load simulation, and code compliance verification for complex buildings and infrastructure.



Structural Bridge Design
Bridge-specific analysis and design software supporting integrated modelling, load application, and code checking (AASHTO LRFD, Eurocodes, and more).

Our Tools - SOFiSTiK Suite

SOFiSTiK FEA
Advanced finite element and structural analysis tools for complex bridge, tunnel, and infrastructure projects.

SOFiCAD
A comprehensive 2D drafting solution optimised for reinforced concrete detailing and plan generation in civil engineering.

Bridge + Infrastructure Modeler
A Revit extension for axis-based, parametric 3D modelling of bridges, tunnels, and linear infrastructure.

SOFiSTiK Reinforcement (RC)
An integrated Revit-based tool for 3D reinforcement modelling, bar scheduling, and the generation of construction-ready drawings and documentation.

FRILO
A NEMETSCHEK COMPANY

A proven software for structural analysis and design. It can execute plate-type and panel-type structures including but not limited to sheet pile and concrete walls with the Finite Element Method. Excellent also for single element analysis and design.

Scope of Services



By leveraging cutting-edge software such as Advance Steel, Robot Structural, and Revit Structures, we ensure precision, constructability, and coordination from concept through to construction.

Our use of advanced tools such as SOFiSTiK 3D Reinforcement and SOFiSTiK Infrastructure Modeler gives us distinct advantage in delivering truly parametric, BIM-integrated solutions for complex infrastructure and structural systems.

All our processes are governed by a robust Quality Management System (QMS) to ensure full compliance with local and international engineering standards.

Our scope of services covers technical consultancy of simple to complex projects from conceptual to detailed engineering designs and construction. The strength of our tools and competence ensures we can tackle structures of different forms and complexities.



Structural Design and Analysis

- Conceptual and schematic structural layouts
- Foundation and substructure design (shallow and deep)
- Construction stage management
- Prestressed and post-tensioned member design
- Superstructure design (steel, concrete, timber, composite)
- Wind load resistance analysis
- Design of offshore structures such as jetties, wharfs and dolphins
- Retaining concrete and steel sheet pile walls, tanks, silos, and specialised structures





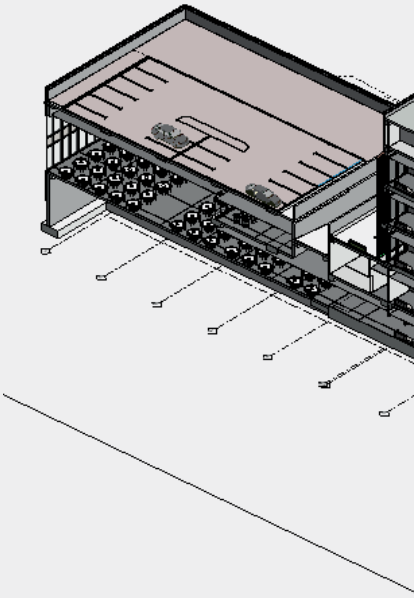




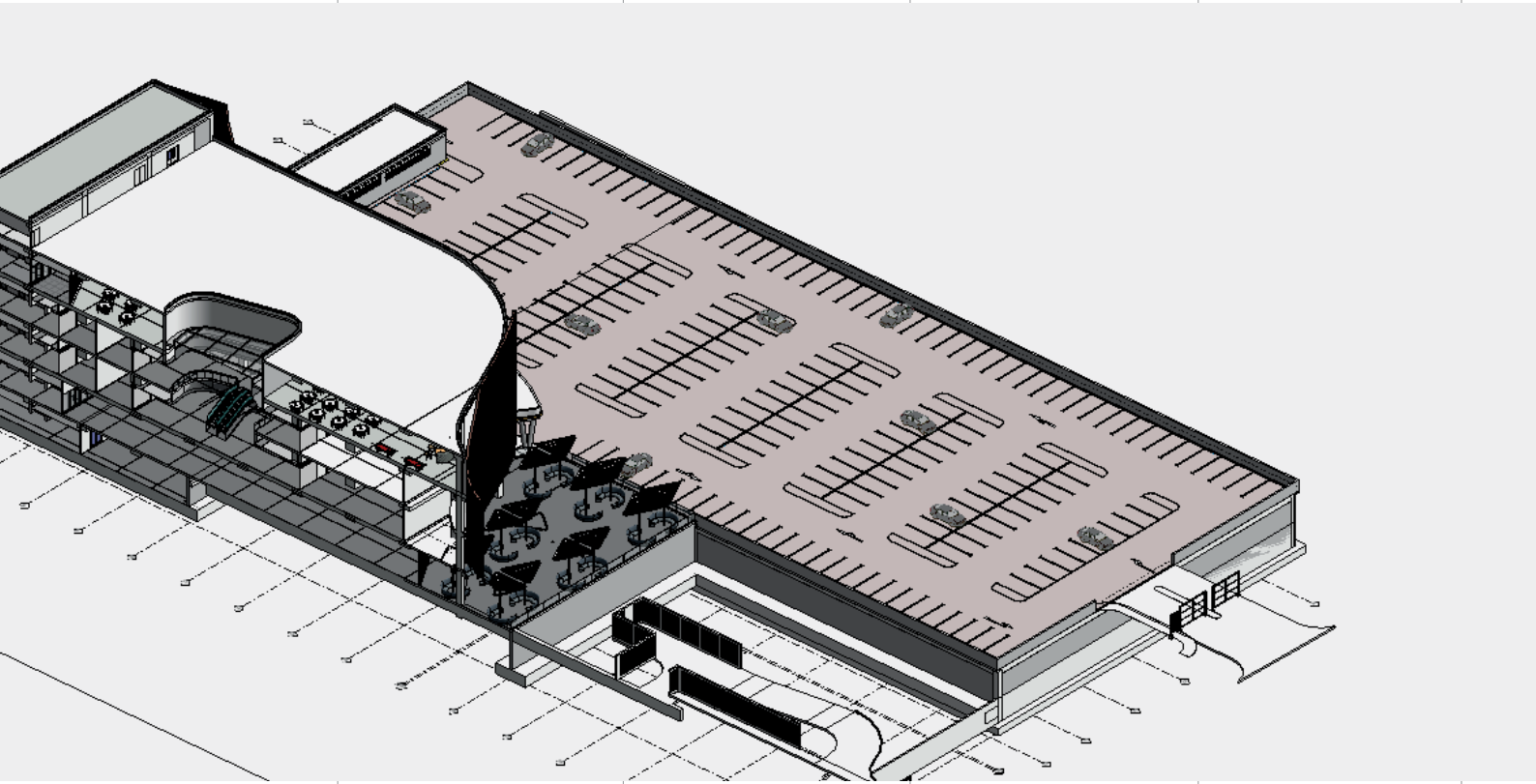
Bridge and Infrastructure Engineering

- Highway and urban bridge design (including flyovers, culverts, and pedestrian bridges)
- Design for new construction and rehabilitation of existing structures
- Structural assessments and integrity investigations
- Design of drainage structures
- Design of retaining walls
- BIM integration in bridge structure

Building Structures



- Residential, commercial, industrial, and institutional buildings
- Low, medium-rise and high-rise buildings
- Design of reinforced concrete, steel and composite building structures
- Structural retrofitting and rehabilitation design
- BIM-integrated design and coordination




GROVE



Construction Support and Supervision

- Construction sequencing and staging
- Technical support during construction
- Value engineering and cost optimisation
- Quality assurance and compliance review

Specialised Engineering Studies



- Structural assessment and retrofitting strategies
- Finite Element Analysis (FEA) for complex load conditions
- Peer reviews and independent structural audits
- Feasibility reports and pre-construction technical studies



Project **Portfolio**

Through strategic partnerships, digital design technology, and a commitment to excellence, **Prime**Tech Structures is enabling landmark transformations across Nigeria's engineering landscape.

BUILDINGS

- Northwest Petroleum Tower, Lagos
- Abuja Shopping Mall
- Port Harcourt Event Plaza
- Department of Petroleum Resources HQ, Abuja
- Dr. Peter Odilli Cancer Cardiovascular Diagnostic and Treatment Centre
- Nigerian Immigration Technology Building
- Bonny Consulate Building
- Port Harcourt Ecumenical Centre
- Villa 3 Project - Port Harcourt
- Abuja Office Complex
- Golf Clubhouse, BonnyPort Harcourt Government Admin & Finance Building
- American International School, Abuja
- Chancellery Building, Irish Embassy Abuja
- Nigerian Finance Intelligence Unit HQ, Abuja
- Pleasure Park Cinema, Port Harcourt

BRIDGES AND INFRASTRUCTURES

- 2nd River Niger Bridge (Inlet and Outlet Structures)
- Abuja-Kano Road
- Abuja Arterial Road N5
- Port Harcourt Ring Road
- Port Harcourt Flyovers
- Opebi Mende Link Bridges
- Warri Flyovers
- Alapere Pedestrian Bridge
- Abuja Northern Parkway N8

INDUSTRIAL AND FARM STEEL STRUCTURES

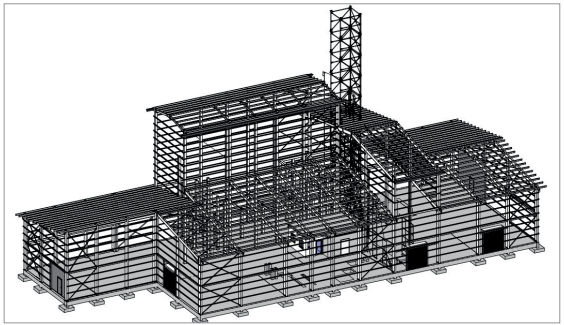
- Bonny Industrial Area Warehouse
- General Electric Multi-modal Facility
- Ebocha Agriculture Farm & Life Camp
- Maiduguri Airport Hanger

MARINE QUAY STRUCTURES

- Bonny MOF Jetty Rehabilitation
- Bonny Marine Control Building & Jetty

Ebocha Farm Production and Camp, Rivers

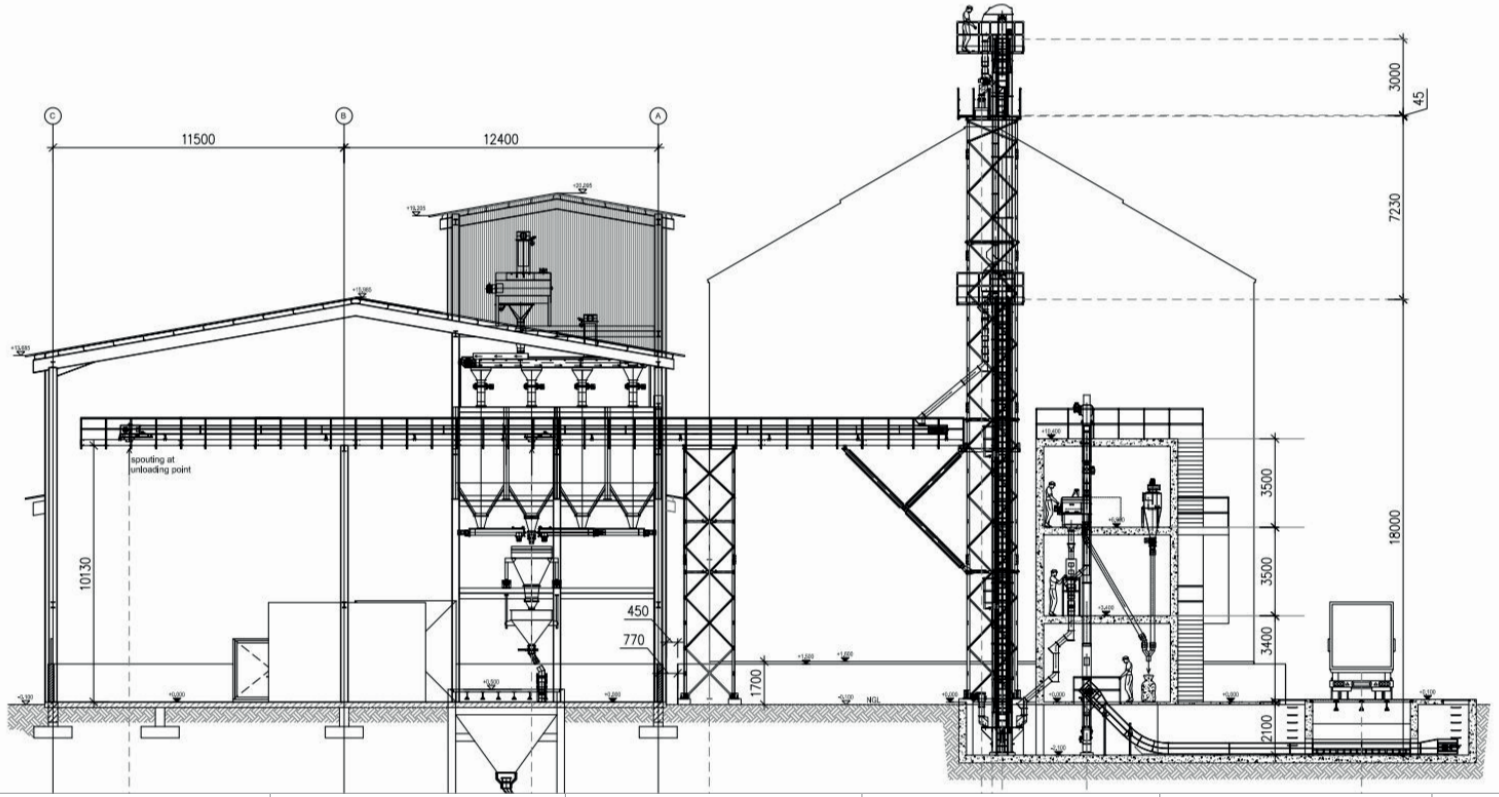




PrimeTech provided detailed structural design and drawings for the construction of an agricultural production facility and residential Camp on a 166-hectare farm plot along Omoku-Ebocha road, Rivers State.

The agricultural production facility is to cater for fish production, poultry, aquaculture, oil production, grain silos, feed mills and greenhouses, and the Camp for housing and recreational facilities.

PrimeTech Structures department was responsible for the design of all buildings and related civil-infrastructural elements.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spouting at
unloading point
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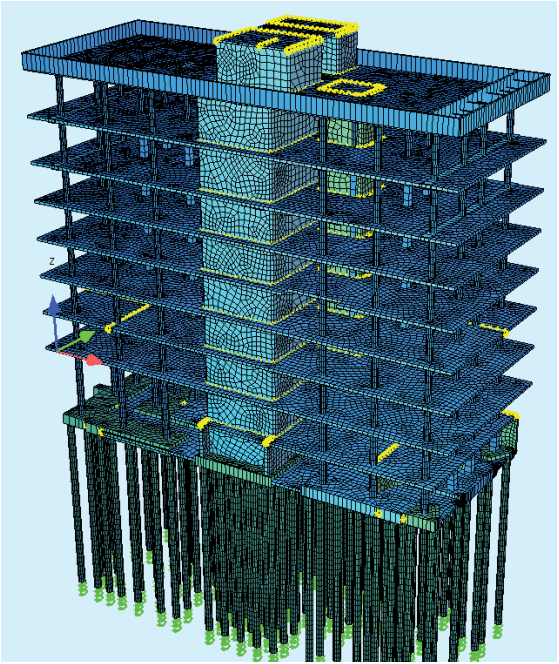
NGL

Northwest Petroleum Office Towers, Victoria Island

Northwest Petroleum Tower is a mixed-use building of 9 floors + a penthouse floor that offers breathtaking 360-degree views of both Victoria Island and Eko Atlantic.

The Tower caters to a variety of essential services, including flexible and contemporary office spaces, a vibrant restaurant, a well-equipped gym, and more. With a focus on maximising lettable space, the tower prioritizes generous office areas, ensuring ample usable space for businesses.

PrimeTech Structures department undertook the detailed engineering design of the Tower building and other ancillary buildings and prepared all required construction drawings.



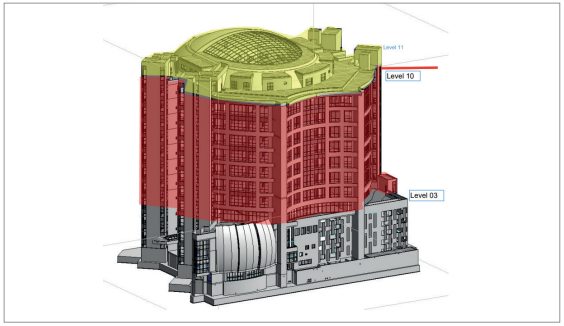


Barrel House Abuja

At the Barrel House, PrimeTech's Structural Department undertook the pivotal task of preparing the structural drawings for levels 3 to 10, of the building, collaborating with the design team at Julius Berger International GmbH.

This project presented unique challenges, including the precise interpretation of complex architectural designs and seamless collaboration with project partners while integrating with existing structures.

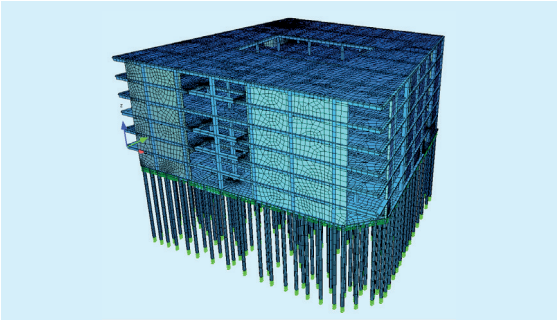
Our team's adaptability shone through with the successful implementation of a distinctive structural solution that facilitated horizontal action for floating beams and columns using highly competent transfer systems which deployed Lenton couplers to enhance the integrity of climbing formworks.

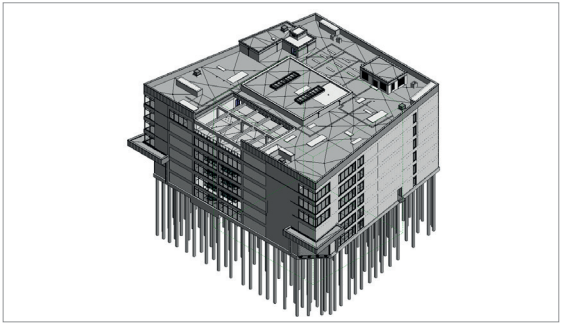






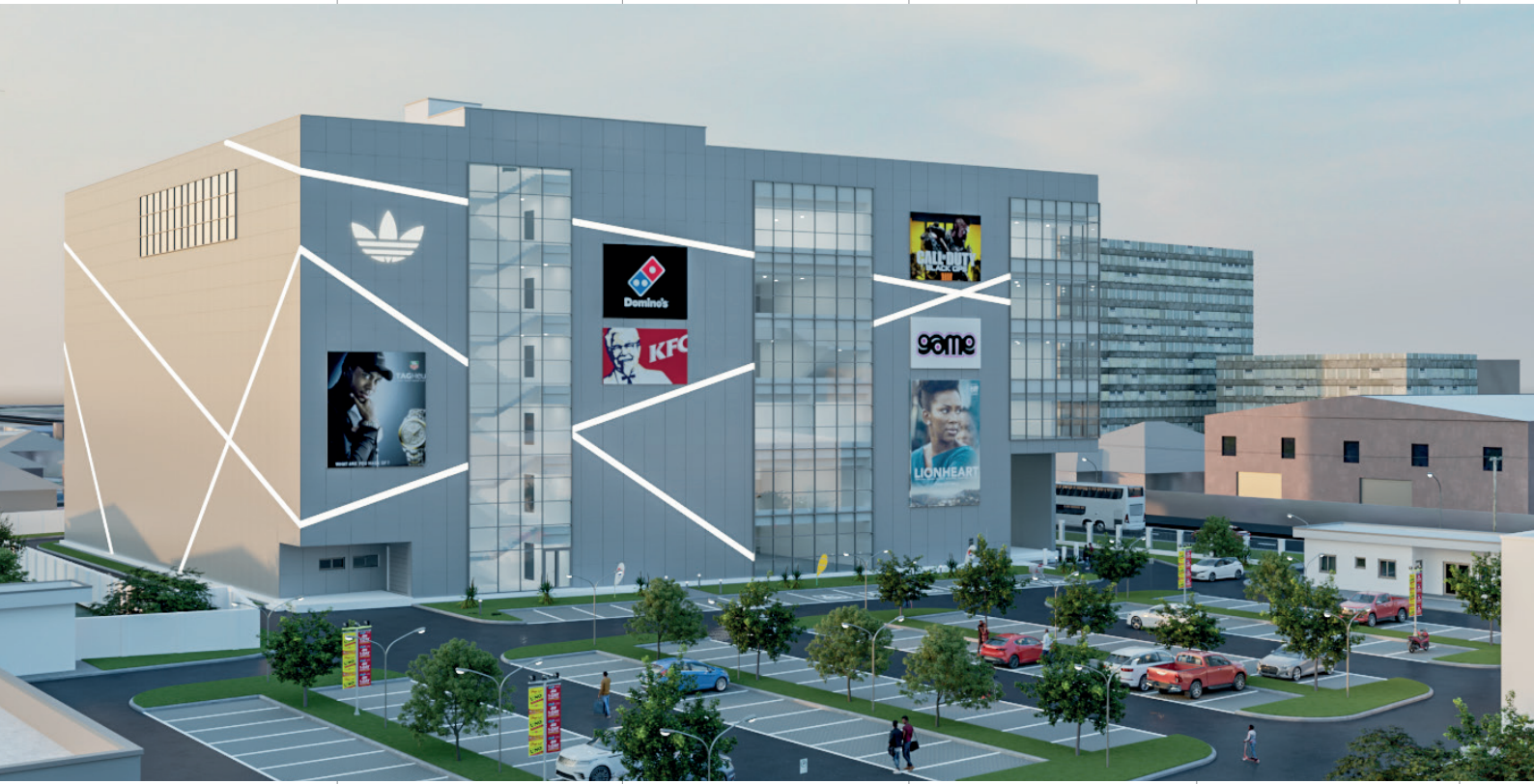
Event Plaza, Port Harcourt



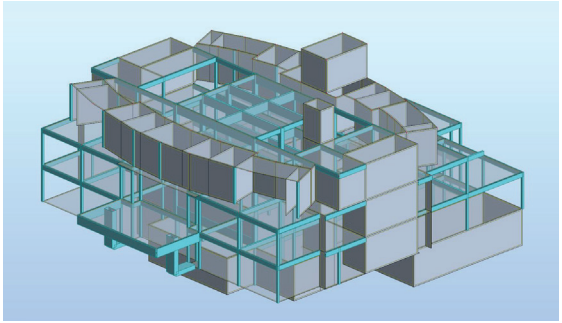


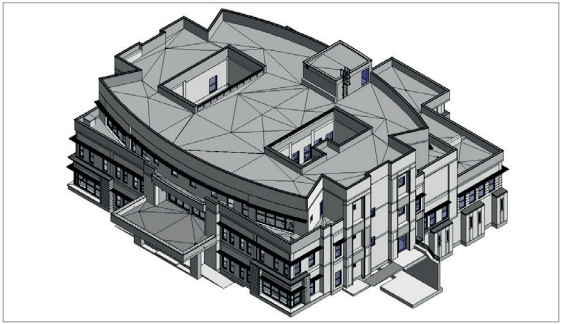
The project was the design of a multi-use commercial centre sitting on a 13.8-hectare plot housing retail centres, restaurants, and a spa and wellness centre. Other ancillary structures designed to service the development include: Utility building, Water reservoir building, and Gate House.

PrimeTech Structure department was responsible for the design of the buildings from concept to detailed engineering using our sophisticated design tools and BIM models for detailing and coordination.


Domino's
KFC
game
LIONHEART

Office Complex, Abuja





The building is a three-floor office development with a basement, which serves as an administrative building and consists of a data control centre, training centre, auditorium with gallery, as well as open-plan and individual offices.
To meet the client's specific performance requirements, this building was engineered with elevated precision and technical rigor, ensuring all design objectives were fully achieved.

PrimeTech Structures department was responsible for the detailed engineering design of the structure and produced all relevant construction drawings based on the consultant's approval design.



Bonny Marine Control Building for NLNG





This building by the seashore was conceived by NLNG to track vessels coming into Bonny waters well in advance of their approach to their plant. The building housed a vessel tracking monitoring system (VTIMS). The building shell, windows and doors were completely conceived to be bulletproof.

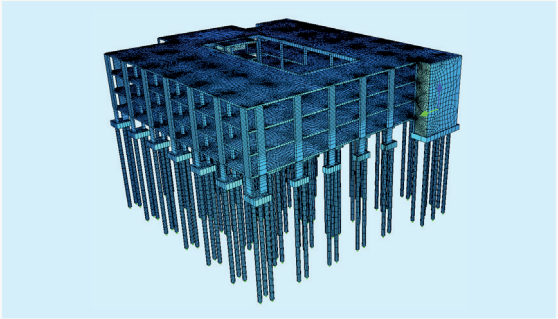
PrimeTech Structures department was responsible for the detailed design of this 4-storey 20 m high concrete structure with an additional 10 m high steel communication tower. The building was designed to Shell Design, Engineering and Practice (DEP) standards, the Eurocodes and ASCE guidelines for bullet resistant buildings.

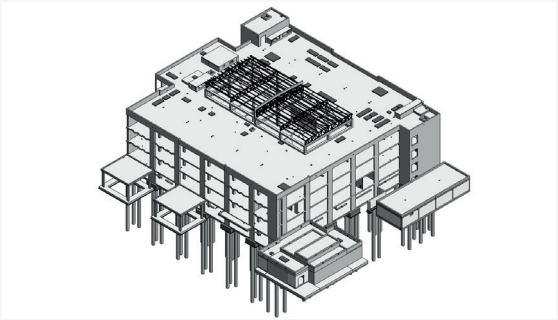


Dr. Peter Odili Cancer Cardiovascular Diagnostic and Treatment Centre

The construction of the Dr. Peter Odili Cancer Cardiovascular Diagnostic and Treatment Centre has improved the health care system of the community as well as contributed to the advancement of the health sector in the country.

PrimeTech Structures department was responsible for the detailed design of this project. Due to strict measures for wide spaces for movement and circulation, a flat slab system was adopted for the superstructure and a deep foundation for the substructure design. Other ancillary buildings designed included a water treatment facility, waste treatment facility and an underground radiotherapy bunker.

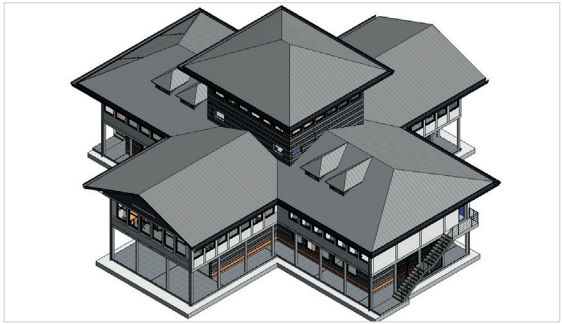





Dr. Peter Odili
Cancer
Cardiovascular
Diagnostics and
Treatment
Centre
20

Consulate Building, Bonny





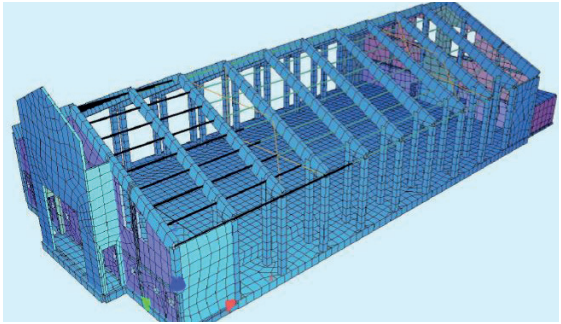
The building design references the old Bonny Consulate Building, which was the seat of British colonial administration in 1897. The consulate building was initiated as a partnership project between the Nigerian Liquefied Natural Gas (NLNG), Julius Berger Nigeria and Bonny Kingdom.

The building is a replacement of the old Bonny Consulate building; it replicates the look and feel of the old consulate building.

PrimeTech Structures department was responsible for the detailed design of this historic building. To maintain its form and heritage, the design was implemented through collaboration and precision to achieve modernity and functionality.


BONNY CONSULATE

Ecumenical Center, Port Harcourt





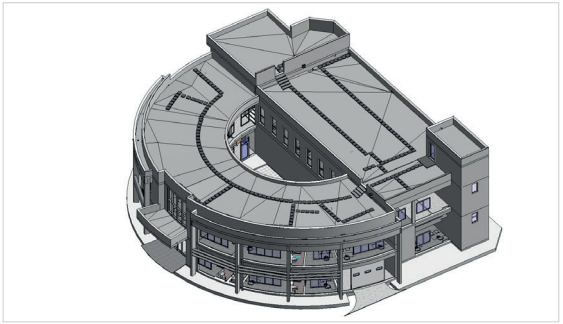
The Ecumenical Centre is designed as a single-bay church with a gallery. It is designed to house over 1000 worshippers at a time and has additional office spaces for the chaplain and other staff.

PrimeTech's Structure department provided the detailed engineering design and technical support throughout construction. By expertly integrating precast reinforced concrete elements, steel and masonry blockwork, we achieved a structure which combines safety, economy and durability with architectural elegance.



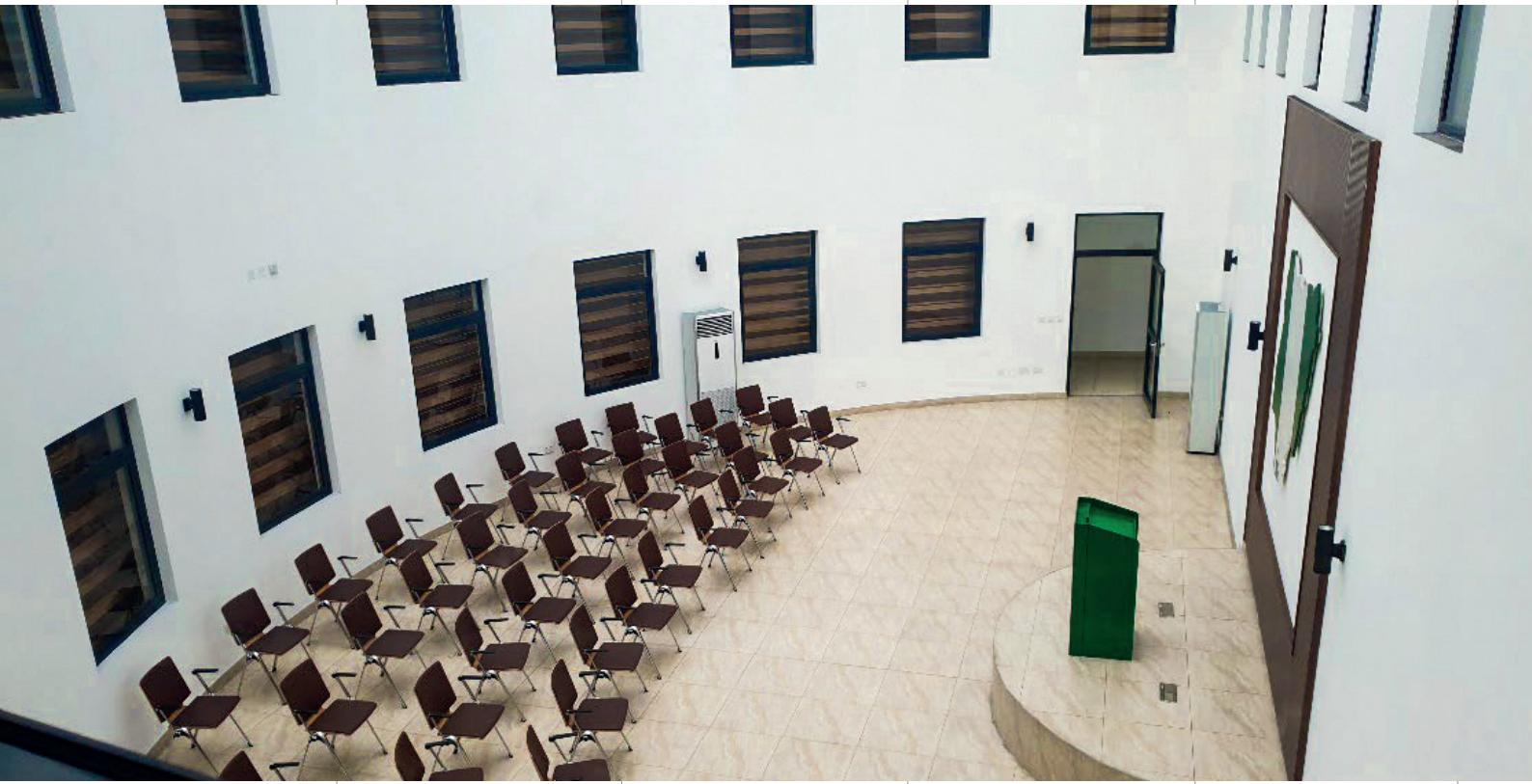
Government Admin and Finance Buildings, Port Harcourt





The project was an office building housing the Administrative and Finance Department of the Rivers State Government. It has a courtyard auditorium, Conference, a 140-seater internal auditorium, a bullet proof strong room, press centre, open-plan and private offices.

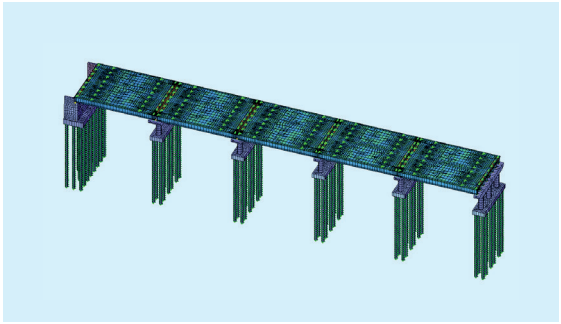
PrimeTech Structures department was responsible for the detailed design of the Finance and Administrative building, as well as the Clinic and Doctor's residence which service the Government complex.



Warri Flyover

As part of the comprehensive infrastructure design for the transformative road infrastructure project in Effurun, Enerhen and Warri, in Delta State, **Prime**Tech's Structural Department delivered the design and construction drawings for reinforced concrete bridges at DSC Roundabout, PTI Junction, and Enerhen Junction.

Each flyover features precast I-beams and in-situ concrete decks with complex horizontal alignments, including curves and contrarotating sections. These were addressed with innovative pier head designs and transition slabs to manage force distribution. **Prime**Tech's engineers also delivered design and construction drawings for pedestrian bridges, culverts, manholes, and signage, using advanced software and collaborating through SBIM and Revit to ensure precise alignment of bridge structures with the overall road infrastructure.

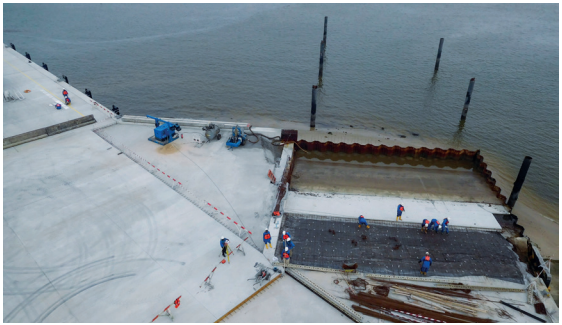






MOF Jetty Rehabilitation, Bonny

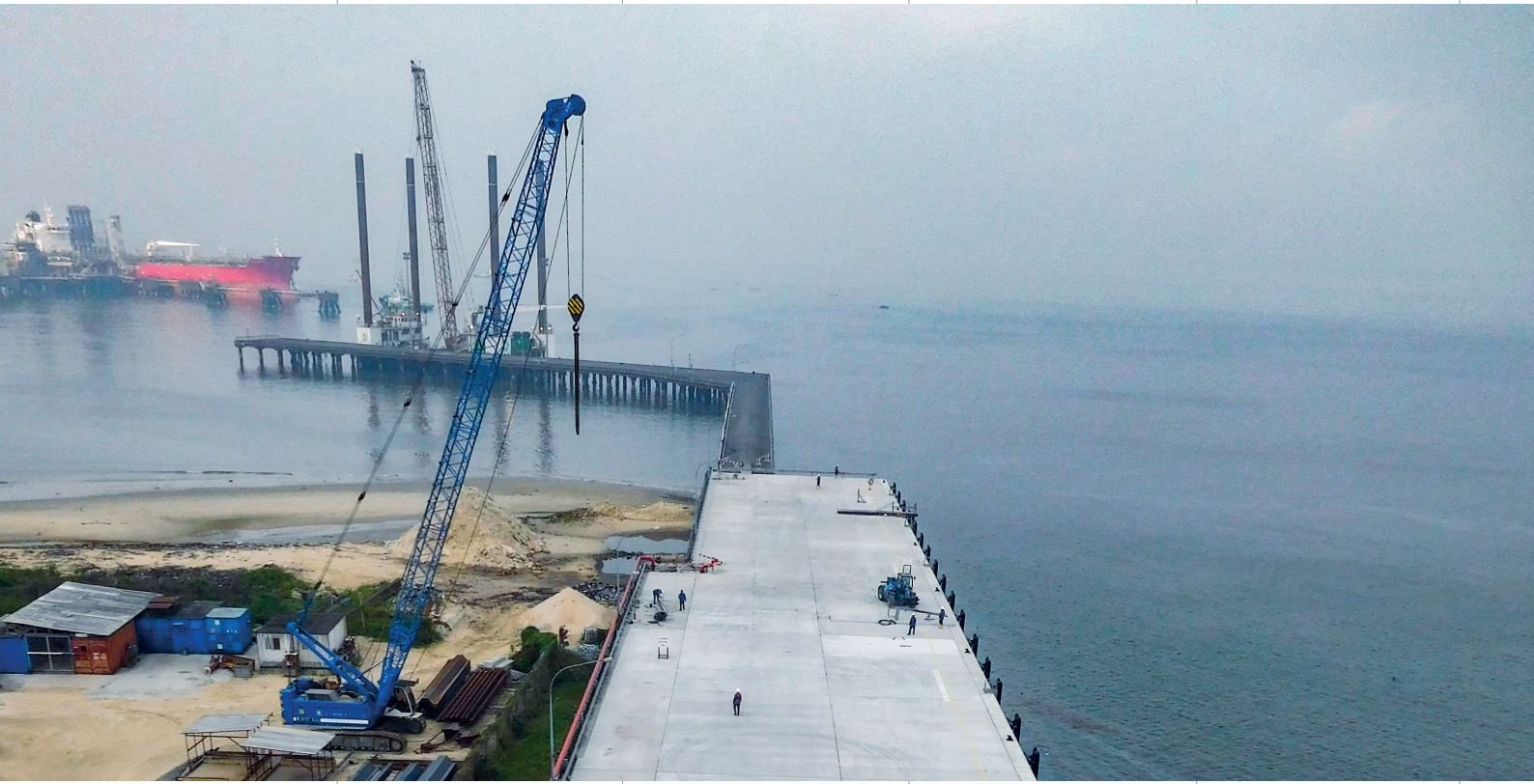




PrimeTech Structures Department performed a comprehensive design study as a precursor to the basic and detailed engineering design of the jetty upgrade.

Our team delivered robust basic and detailed engineering reports, including structural calculations for sheet piles, cathodic protection systems, mooring piles, and shoreline protection.

We provided detailed engineering drawings, bill of quantities, specifications, procurement schedules and all required documentation to support seamless project execution.

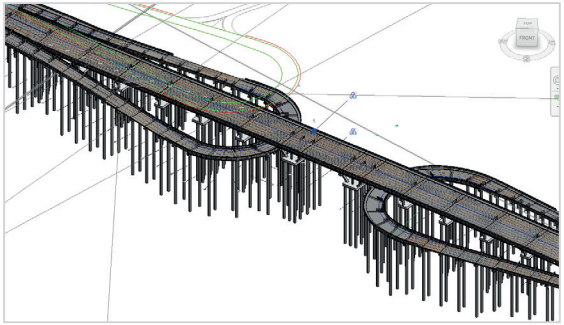


Opebi-Mende Link Bridges, Lagos

Opebi – Mende – Ojota link bridges are planned to ease traffic congestion within Opebi, Maryland and Ojota environs in Nigeria's most populated city, Lagos.

PrimeTech Structures department was responsible for the design of 2 major bridges with underpasses designed as a hollow-deck system to manage available headroom. Using post-tensioned Beams and concrete deck on piles, the large spans and swampy terrains were adequately managed.

The design and visualisation of the project was carefully managed using 3D models, simulations, clash detection in the production of construction drawings, procurement, surveying and collaboration with other stakeholders.







Ring Road, Port Harcourt





PrimeTech Structures department was responsible for the design of the Port Harcourt Ring Road bridges. The Ring Road spans a total of 45.25 km, and it helps to serve as a major arterial road connecting several roads in Port Harcourt city.

The project includes five dual carriage way flyovers. **Prime**Tech Structures department was responsible for the site analysis, conceptual design, detailed design and prepared construction drawings for all bridges in the Ring Road project.

The design team leveraged on Finite Element Analysis tools, and BIM tools throughout the design cycle.



Port Harcourt Flyovers





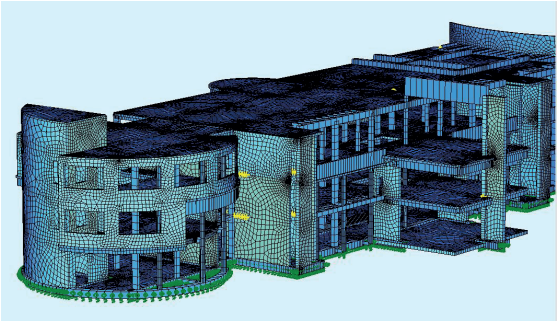
The Port Harcourt Flyovers serves as an integral part of the transportation system in Port Harcourt Rivers State, as it helps to reduce traffic congestion and boost economic growth of the State.

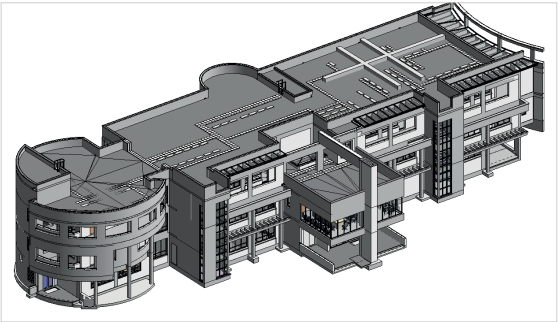
PrimeTech Structures department was responsible for the detailed design and construction drawings for twelve (12) flyovers with concrete wall ramps. The Flyovers comprises of both single and dual carriageways with 13 - 16 spans supported on 22.5m long precast I-beams per span.

The flyovers were designed to be supported on bored piles due to the weak bearing soil properties in Port Harcourt.


LG
Hisense

Technology Building, Data Command, Communication and Control Center





The Technology Building, Data Command, Communication and Control Centre was built to serve as a hub to manage data of the Nigeria Immigration Service. It consists of a Data Command and Control Centre, Auditorium with gallery, as well as open-plan and closed-plan offices.

PrimeTech Structures department undertook the detailed design of the building and its ancillary structures, undertaking critical foundation analysis due to the steep slope terrain of the site.


NIGERIA IMMIGRATION SERVICE

Our Design Philosophy

At **Prime**Tech, our structural design philosophy centres on:

- **Structural Integrity:** Ensuring all structures meet local and international codes. Extensive check and approval procedures
- **Cost Optimisation:** Optimising material uasage and construction time
- **Collaboration:** Integrated BIM workflows across disciplines. Multi-disciplinary check procedure.
- **Innovation:** Use of advanced software and simulation tools to reduce design iteration cycles
- **Sustainability:** Promoting environmentally responsible practices

We believe that excellence in structural engineering lies not only in what we build – but how we design to serve both form and function efficiently.

ISO 9001:2015

PrimeTech is ISO 9001:2015 certified and committed to delivering enduring value to clients through corporate capacity and team development.

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