



SOUTHERN AFRICAN INSTITUTE
OF STEEL CONSTRUCTION



JTC BUILDING SYSTEMS

**Steel Awards
2024**



LUSAKA COMMERCIAL COLD STORE

THE PROJECT BRIEF

CLIENT: Value Foods

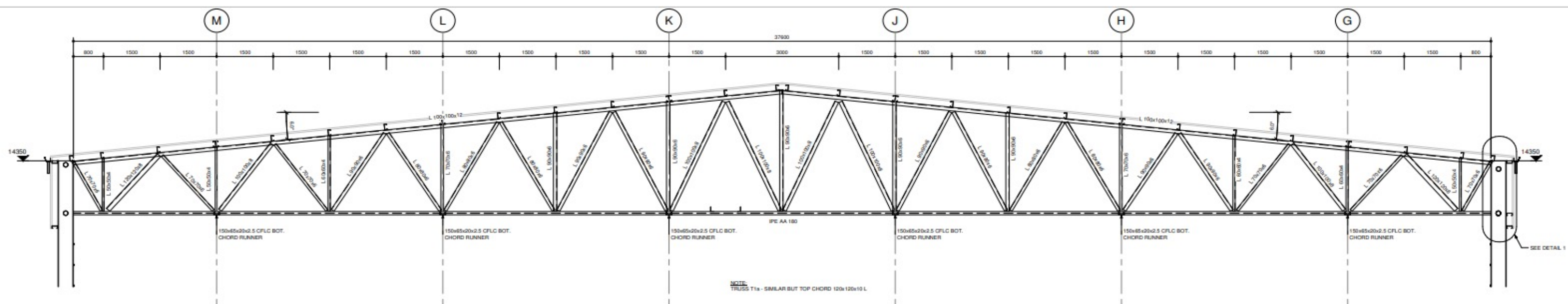
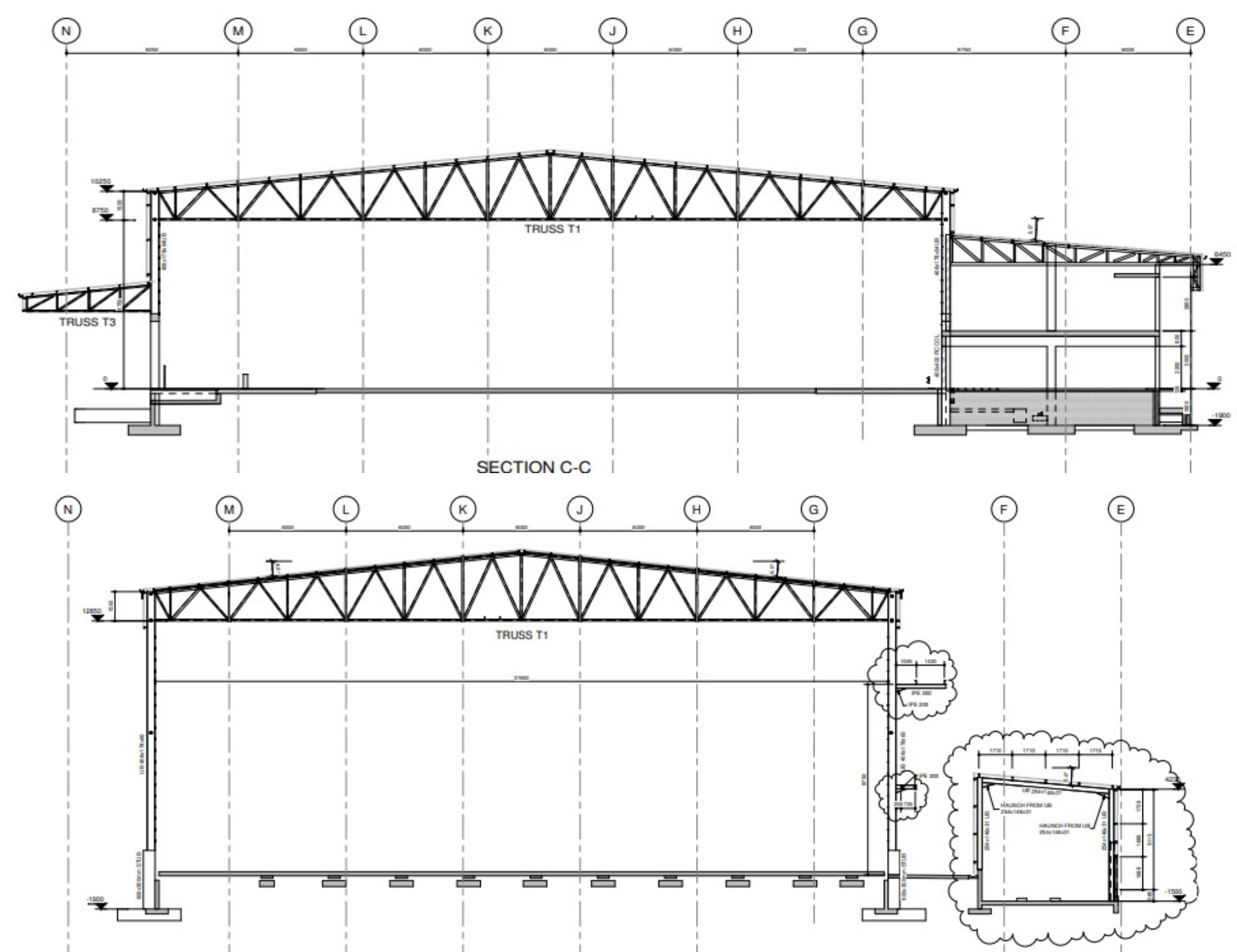
ARCHITECTS: Anderson and Anderson

MAIN CONTRACTOR: Stefanutti Stocks Zambia

PROJECT BRIEF

5000M2 COLD AND FREEZER ROOM FACILITY

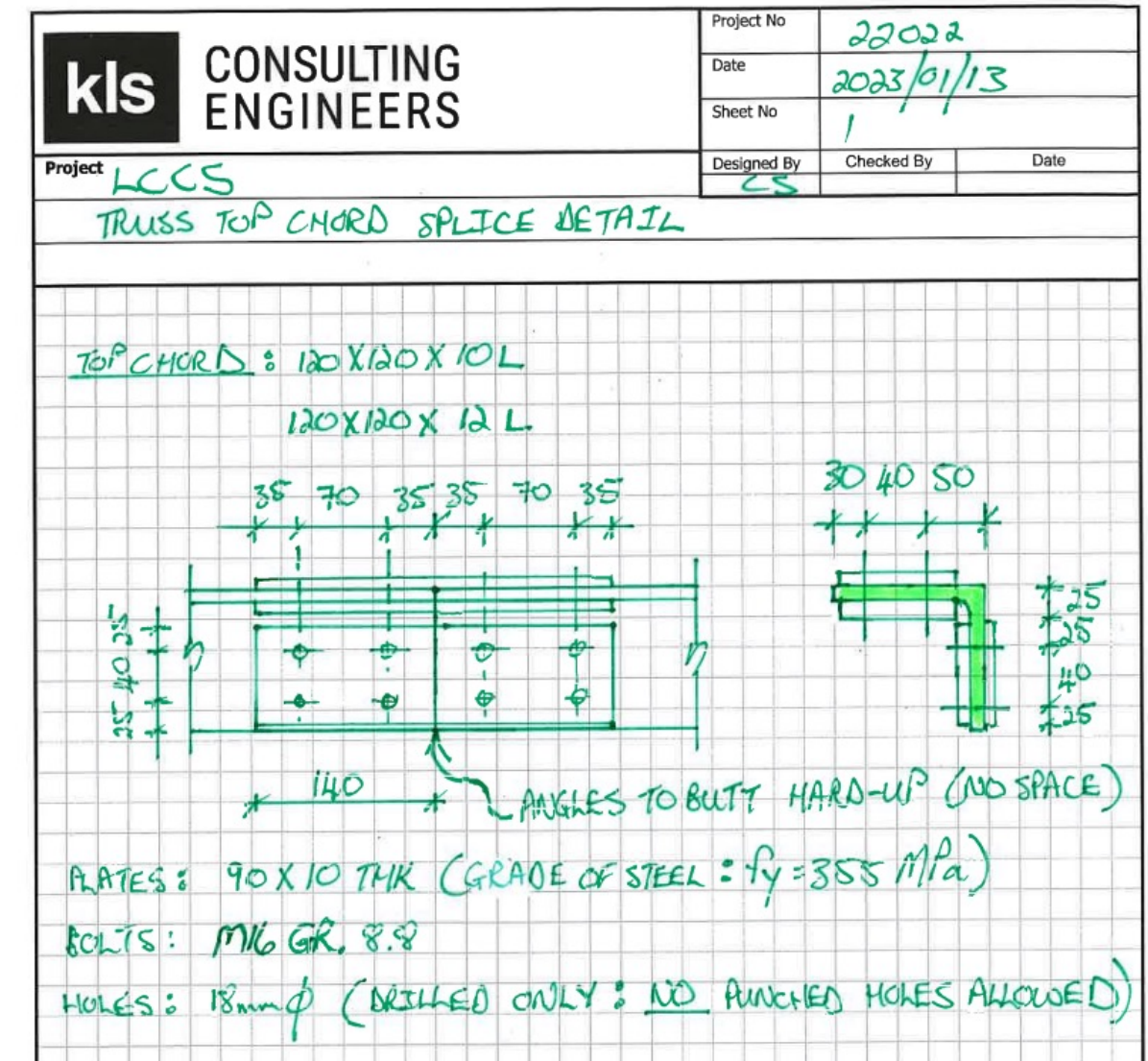
- Two main Boxes created
 - Clearance of 12850mm and 8750mm
- Clear spans of 38m on trusses



PROJECT BRIEF

5000M2 COLD AND FREEZER ROOM FACILITY

- Bolted trusses due to depth and ease of transport
- Flush endplate connections on truss bottom cord splices
- Flush connection plates on column splices



THE PROJECT OVERVIEW



PROJECT OVERVIEW

STRUCTURAL STEELWORK

Project Completed: Sept 2023

Steelwork Completed: Jun 2023

Tonnage: 150t

Profiles used: Hot rolled sections and angular trusses



PROJECT OVERVIEW

STRUCTURAL STEELWORK

Structural Engineer: KLS Consulting Engineers/
ZMCK

Steelwork Contractor: JTC Building Systems

Steel Detailer: JTC – Francois Engelbrecht

Steel Merchant/s: Allied Steelrode

(Lipped channel, plates and hot rolled steel)



PROJECT OVERVIEW

METAL CLADDING AND ROOFING

Project Completed: Sept 2023

Cladding Completed: Jul 2023

Cladding Material Used: 0.53mm AZ 150 Colorplus

Cladding Profile: Saflok 700 and IBR Side clad

Cladding Area Coverage: 6500 m²

Cladding Tonnage: 26T



STRUCTURAL FRAMING

STRUCTURAL STEEL ENGINEER: KLS CONSULTING ENG

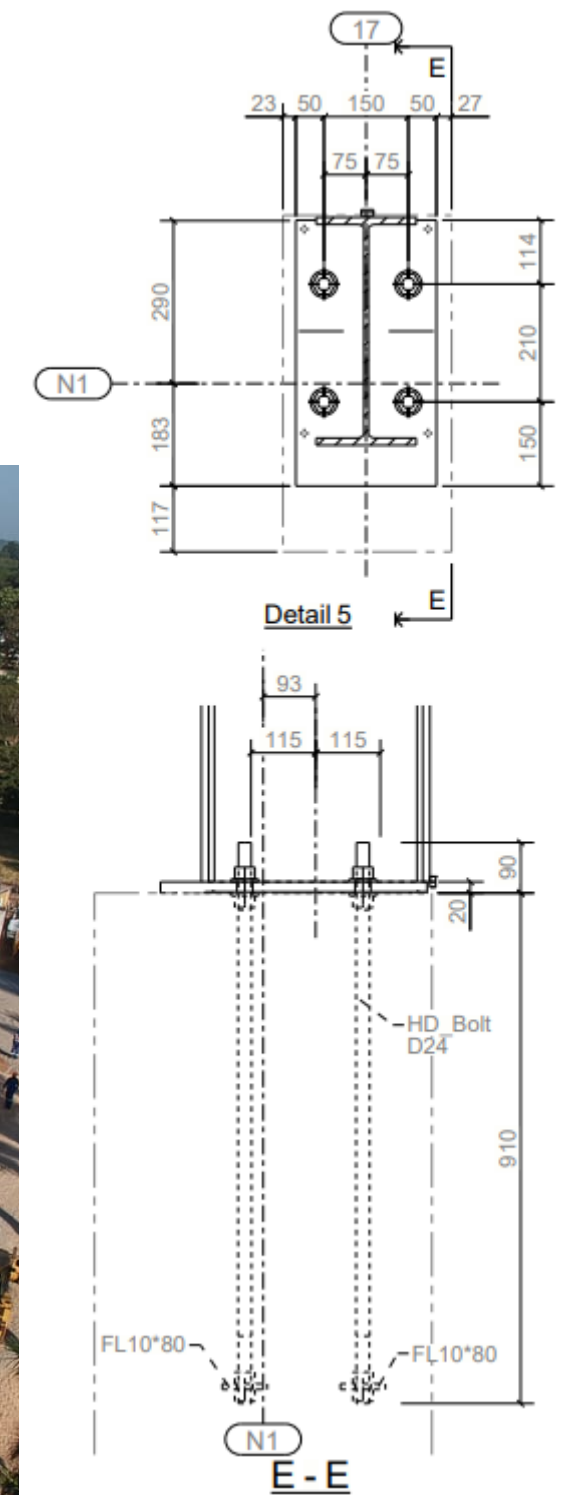
STEELWORK CONTRACTOR: JTC BUILDING SYSTEMS

STEEL DETAILER: JTC BUILDING SYSTEMS

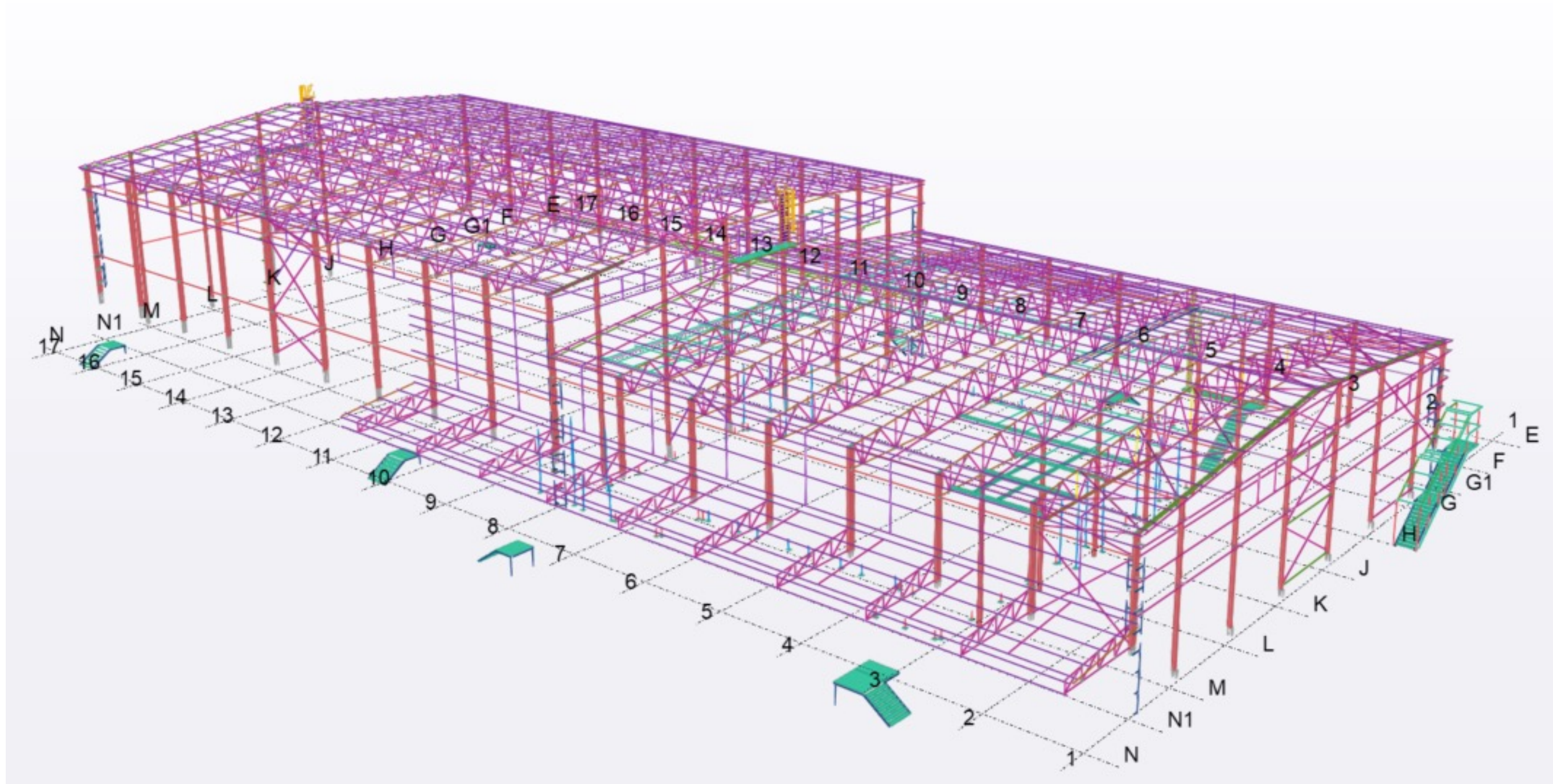
STRUCTURAL FRAMING

MAIN STRUCTURE

- Lattice truss design with 38m clear spans
- 50mm Pre-camber on trusses to ensure horizontal bottom cord under panel load
- Eaves height of up to 14m
- Moment connection between steel and concrete cols



TEKLA MODELS



METAL CLADDING/ROOFING

CLADDING MANUFACTURER: Safintra South Africa/ Namibia

CLADDING ROLL FORMER / PROFILER: Safintra Namibia

METAL CLADDING



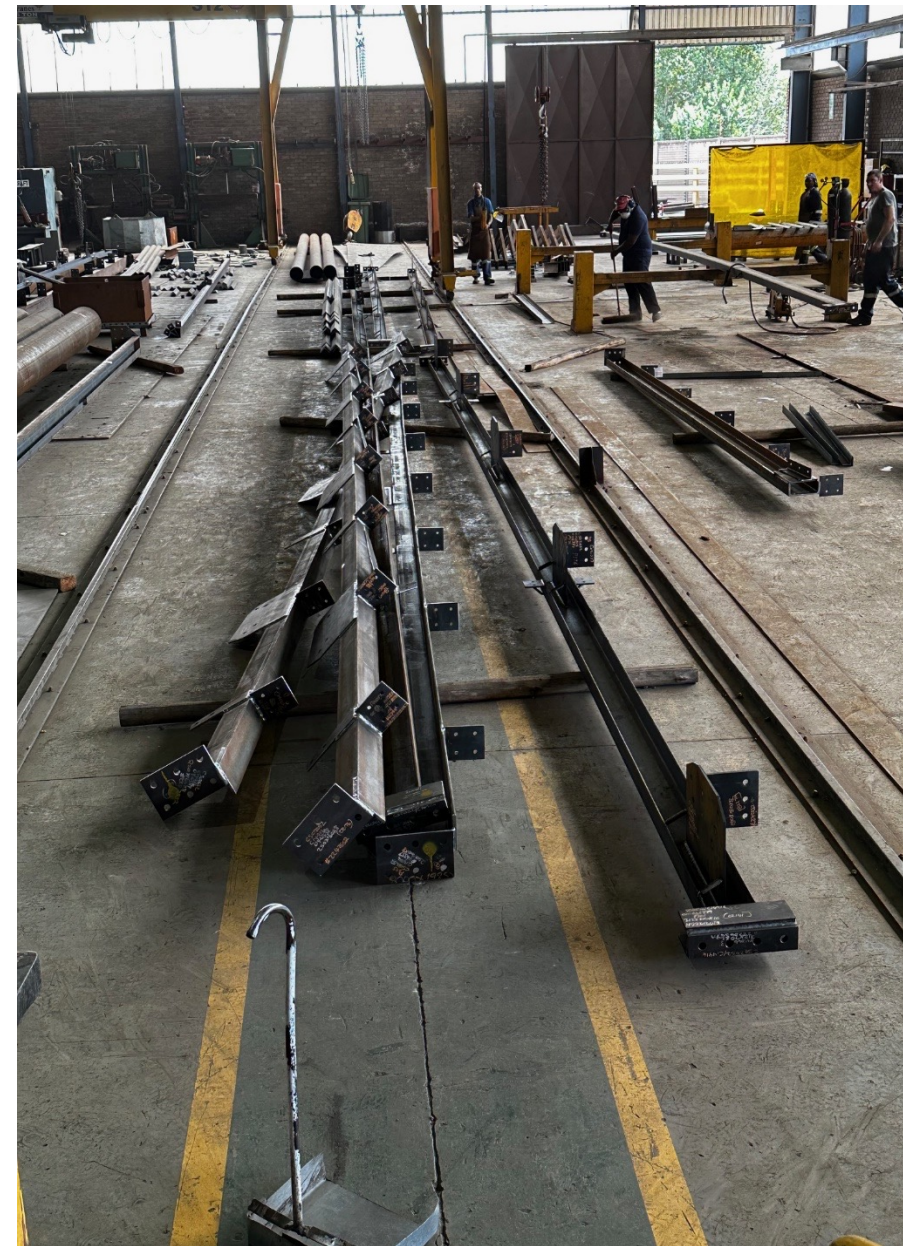
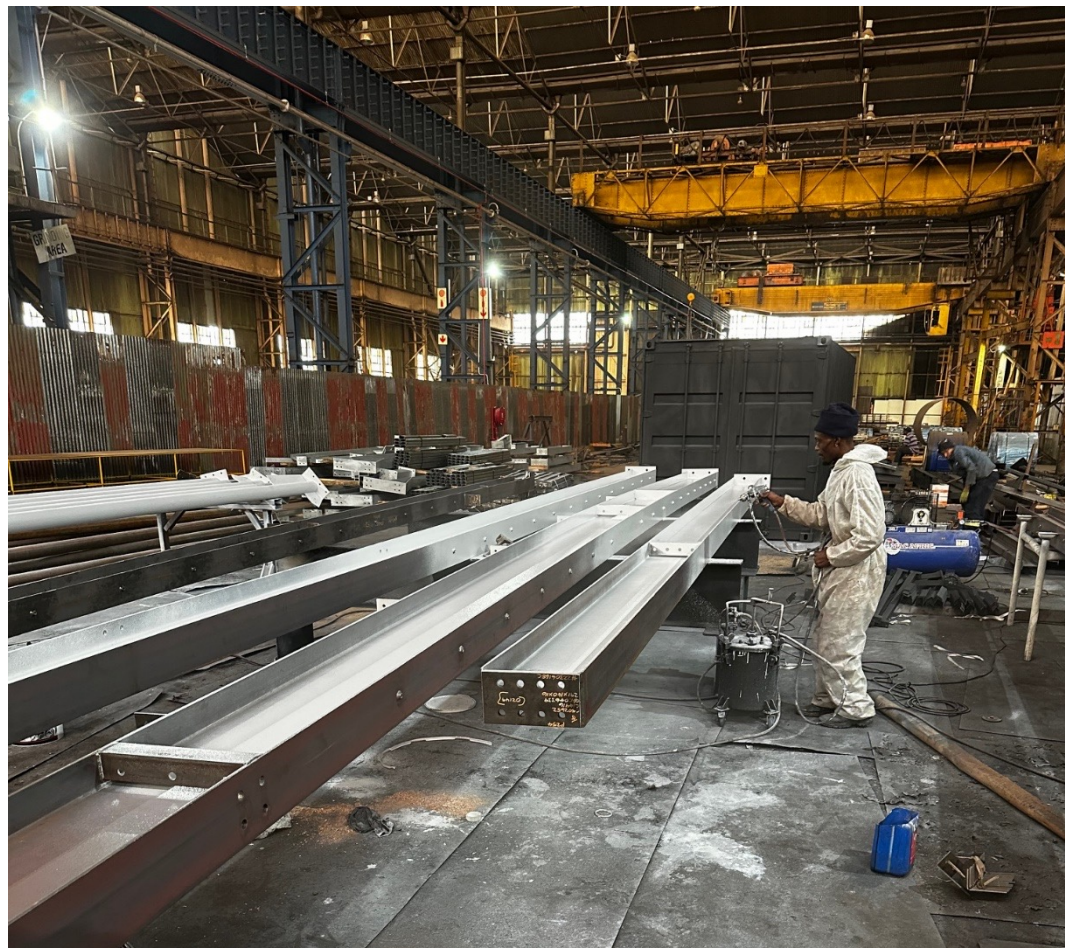
FABRICATION/ DISPATCH

STEELWORK CONTRACTOR: JTC BUILDING SYSTEMS

FABRICATION

FABRICATION

- Columns all from Hot rolled I beams
- Angles for lattice trusses pre-punched and assembled on site



DISPATCH

ROAD FREIGHT

- All materials transported from Vereeniging to Lusaka Zambia
- Logistical planning crucial for continuation on site



ERECTION / CONSTRUCTION / INSTALLATION

CONTRACTOR: JTC BUILDING SYSTEMS

ERECTION



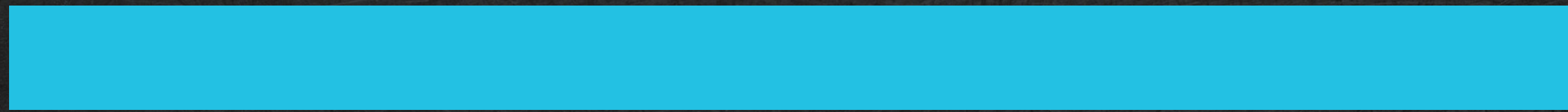
ERECTION



ERECTION



CHALLENGES AND SOLUTIONS



CHALLENGES/ SOLUTIONS

CONCURRENT STEEL AND PANEL INSTALLATION

- Proper coordination with panel installer



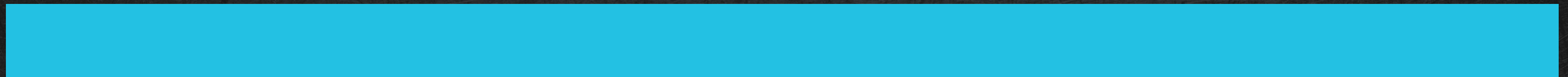
CHALLENGES/ SOLUTIONS

ACHIEVING PRE-CAMBER ON BOLTED TRUSSES

- Using chain blocks and timber dunnage on site to curve bottom cord when assembling trusses



THE BENEFITS OF STEEL IN THIS APPLICATION



BENEFITS OF STEEL

- Speed of construction
- Large clear spans
- Environmentally friendly



WHAT WE'RE PROUD OF

