

GOVERNMENT OF GILGIT-BALTISTAN — DIRECTORATE OF FOOD

STRATEGIC WHEAT RESERVE GODOWN (ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR)

TURNKEY EPC ARCHITECTURAL, CIVIL & STRUCTURAL ENGINEERING TENDER DOSSIER

KEY PROJECT PARAMETERS & CAPACITY METRICS

Procuring Agency:	Directorate of Food, Govt of Gilgit-Baltistan
Project Officer:	Engr. Kawish, Sub-Divisional Officer (SDO)
Consulting EPC Firm:	Fusion Developers (Pvt) Ltd (PEC Lic: C-A/09420)
Building Dimensions:	102'-0" Clear Width × 425'-0" Length × 35'-0" Eave
Total Covered Footprint:	43,350 Sq. Ft. (4,027.35 m²) on 250mm Heavy Slab
Usable Storage Area:	26,880 Sq. Ft. (62% optimized storage density)
Storage Layout:	48 Standard PASSCO Ganjis (28' × 20' base, 18 bags high)
Grain Static Capacity:	8,000 Metric Tons (160,000 bags of 50 kg)
Annual Reserve Throughput:	32,000 – 35,000 Metric Tons per Annum
Mega Industrial Portals:	3 Nos. Motorized Sliding Gates (30'-0" W × 20'-0" H)
Central Transit Gangway:	20'-0" Wide continuous arterial forklift/truck corridor
Perimeter Inspection Aisle:	5'-0" Clear buffer for Phosphine (PH3) gas fumigation
Governing Design Codes:	BCP 2021, AISC 360-16, MBMA 2018, AWS D1.1, ASCE 7-16
Site Location:	Islamabad Logistics & Dry Port Transport Corridor

REGIONAL SUPPLY CHAIN & STRATEGIC TRANSIT CORRIDOR

PUNJAB GRAIN BASIN (PASSCO Depots: Multan / Bahawalpur / Sargodha)

▼ Direct Rail & Heavy Truck Transport via N-5 GT Road

ISLAMABAD STRATEGIC BASE GODOWN (43,350 SQ. FT. PEB)

• 8,000 MT Static Holding • Hermetic Phosphine Fumigation • Weighbridge

▼ Karakoram Highway (KKH / N-35) Northbound Supply Fleet

NORTHERN CONSUMPTION DISTRICTS (Gilgit • Skardu • Diamer • Ghizer)

• Annual Subsidized Consumption: 150,000 Metric Tons (3.0M Bags)

• Winter Landslide Buffer: 60-to-90 Day Critical Strategic Food Reserve

COORDINATES: 33°38'N 73°02'E | ZONE: Islamabad Federal Capital Area

GENERAL SPECIFICATIONS & DESIGN NOTES

- OFFICIAL PUBLIC SECTOR STRATEGIC WHEAT RESERVE GODOWN FOR THE GOVT OF GILGIT-BALTISTAN.
- MANDATORY 100% SINGLE CLEAR SPAN (102'-0" / 31.09m) WITH ZERO INTERMEDIATE INTERIOR COLUMNS.
- LONGITUDINAL LENGTH 425'-0" (129.54m) ARRANGED IN 17 BAYS @ 25'-0" (7.62m) C/C SPACING.
- CLEAR EAVE HEIGHT 35'-0" (10.67m) AND RIDGE APEX 39'-3" (11.96m) WITH 1:12 ROOF DRAINAGE PITCH.
- THREE (3) MEGA MOTORIZED INDUSTRIAL SLIDING GATES (30'-0" W × 20'-0" H) WITH HERMETIC PH3 SEALS.
- ALL DIMENSIONS IN MILLIMETRES UNLESS EXPLICITLY NOTED OTHERWISE. [] DENOTES DUAL IMPERIAL.

SHEET	DRAWING TITLE	DISCIPLINE	REV	SCALE
G-001	Cover Sheet, Project Information & Drawing Index	GENERAL	R1	N.T.S.
G-002	General Structural Design Criteria & Codes	GENERAL	R1	N.T.S.
A-101	Master Site Plan & Logistics Setting Out	ARCHITECTURAL	R1	1:750
A-102	Ground Floor Architectural Plan & 48 Ganjis	ARCHITECTURAL	R1	1:300
A-103	Roof Plan, Ridge Ventilators & Drainage	ARCHITECTURAL	R1	1:300
A-104	Longitudinal Facade Elevations (Grid A & B)	ARCHITECTURAL	R1	1:300
A-105	Gable Elevations & Building Cross Section A-A	ARCHITECTURAL	R1	1:150
A-106	30'×20' Mega Industrial Sliding Gate Details	ARCHITECTURAL	R1	1:25 / 1:10
A-107	Insulated Cladding & Anti-Condensation Details	ARCHITECTURAL	R1	1:10 / 1:5
S-101	Foundation Layout & 250mm Heavy Slab Plan	STRUCTURAL	R1	1:300
S-102	Anchor Bolt Setting Plan & Column Base Plates	STRUCTURAL	R1	1:20 / 1:10
S-103	Structural Steel Framing General Arrangement	STRUCTURAL	R1	1:300
S-104	Main Rigid Portal Frame (RF-1) Fabrication	STRUCTURAL	R1	1:50 / 1:20
S-105	50-ft Gate Jack Beam & Transfer Framing	STRUCTURAL	R1	1:50 / 1:20
S-106	Secondary Cold-Formed Steel Framing (Purlins/Girts)	STRUCTURAL	R1	1:25 / 1:10
S-107	Standard Connection Details & AWS Welds	STRUCTURAL	R1	1:10 / 1:5
3D-101	3D Structural Steel Axonometric & Assembly Model	3D CAD MODEL	R1	1:450
3D-102	3D Exploded Connection & Erection Sequence	3D CAD MODEL	R1	N.T.S.

PROFESSIONAL ENGINEERING REGISTRATION & EPC CERTIFICATION

EPC CONTRACTOR:
FUSION DEVELOPERS (PVT) LTD
PEC License: C-A/09420 (No Limit)
CE-01, CE-10, BC-01 Categorization

[CORPORATE SEAL AFFIXED]

Head Office: J5 Farm, Adda Plot, Lahore

CHIEF STRUCTURAL ENGINEER:
DR. ARSHAD FAROOQ, PhD PE
PEC Reg: CIVIL / 18429 (Consulting PE)
Fellow, AISC & Structural Engrs World

STATUS: APPROVED FOR TENDER

Signature: _____

MANAGING DIRECTOR & CEO:
MIAN USMAN
Managing Director, Fusion Developers
Turnkey Commercial & Steel Director

BID AUTHORIZATION SIGN-OFF

Signature: _____

FUSION DEVELOPERS (PVT) LTD

Structural Steel Fabricators • Turnkey Industrial EPC Constructors
CLIENT / PROCURING AGENCY:
J5 Farm House, Adda Plot, Rawalpindi Road, Lahore | PEC License: C-A/09420
DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN

PROJECT:
102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN

LOCATION:
ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN

DRAWING TITLE:

COVER SHEET, PROJECT INFORMATION & DRAWING INDEX
DISCIPLINE:
GENERAL / TENDER

DRAWN BY:
Engr. A. Malik

APPROVED BY:
Mian Usman, MD

CHECKED BY:
Dr. A. Farooq, PE

DATE & REV:
SEPTEMBER 2026 • REV 01

DRAWING NO:

SCALE (A3):
N.T.S.

SHEET SIZE:
ISO A3 (420 × 297 mm)

ENGINEERING STAMP:
CERTIFIED EPC TENDER DOSSIER

STATUS:
ISSUED FOR TENDER & FABRICATION

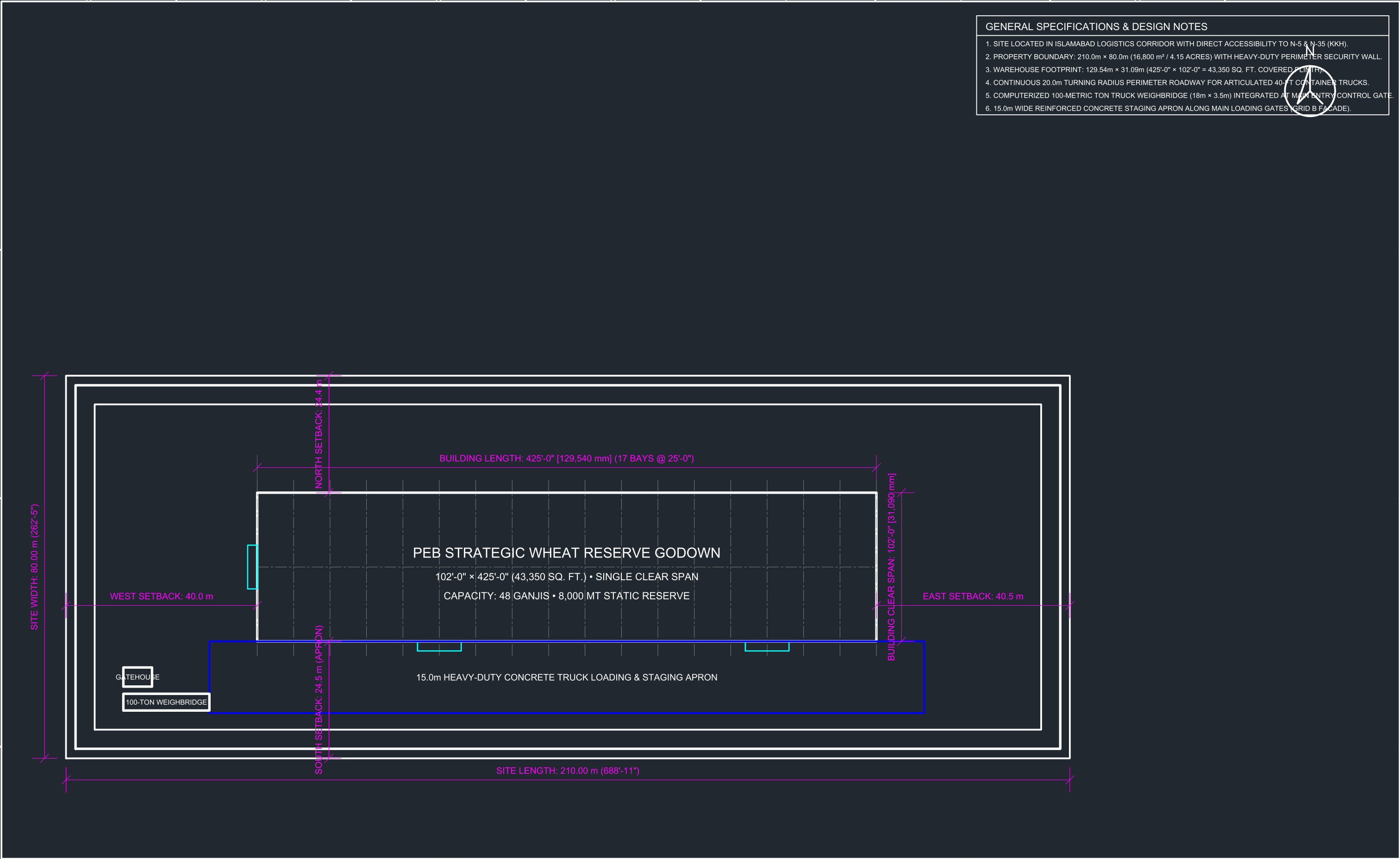
STANDARD / CODE	TITLE & SCOPE OF APPLICATION	GOVERNING JURISDICTION
BCP 2021	Building Code of Pakistan (Seismic, Wind & Gravity Provisions)	Federal Ministry of Housing / PEC
AISC 360-16	Specification for Structural Steel Buildings (LRFD Design Method)	American Institute of Steel Construction
AISC 341-16	Seismic Provisions for Structural Steel Buildings (OMF System)	American Institute of Steel Construction
MBMA 2018	Metal Building Systems Manual (Tapered Portal Frame Synthesis)	Metal Building Manufacturers Association
AWS D1.1/D1.1M	Structural Welding Code — Steel (SAW, CJP Groove, Fillet NDT)	American Welding Society
ASCE 7-16	Minimum Design Loads and Associated Criteria for Buildings	American Society of Civil Engineers
ACI 318-19	Building Code Requirements for Structural Concrete (Footings/Slab)	American Concrete Institute

Element	Material Spec	Fy (Min)	Fu (Min)	Corrosion Protection / Finish
Portal Columns & Rafters	ASTM A572 Gr 50	345 MPa	450 MPa	Epoxy Zinc Phosphate Primer + PU Topcoat (120µm)
Base & Haunch Splice Plates	ASTM A572 Gr 50 / A36	345 / 250 MPa	450 MPa	Shot-blasted Sa 2.5 + High-Build Epoxy (150µm)
Transfer Gate Jack Beams	ASTM A572 Gr 50	345 MPa	450 MPa	Heavy Industrial 2-Pack Polyurethane Coating
Roof Purlins & Wall Girts	ASTM A653 Gr 50 Galv	345 MPa	450 MPa	Continuous Hot-Dip Galvanized Z275 (275 g/m²)
High-Strength Moment Bolts	ASTM A325 / A490	635 / 830 MPa	825 / 1035 MPa	Zinc Flake / Geomet Dacromet Corrosion Coated
Foundation Anchor Bolts	Grade 8.8 High-Tensile	640 MPa	800 MPa	Electro-Galvanized with Double Heavy Hex Nuts
Heavy Floor Slab Concrete	Class 30 MPa (M30)	30 MPa (fc')	—	Polypropylene Fibers (0.9 kg/m³) + Steel Mesh

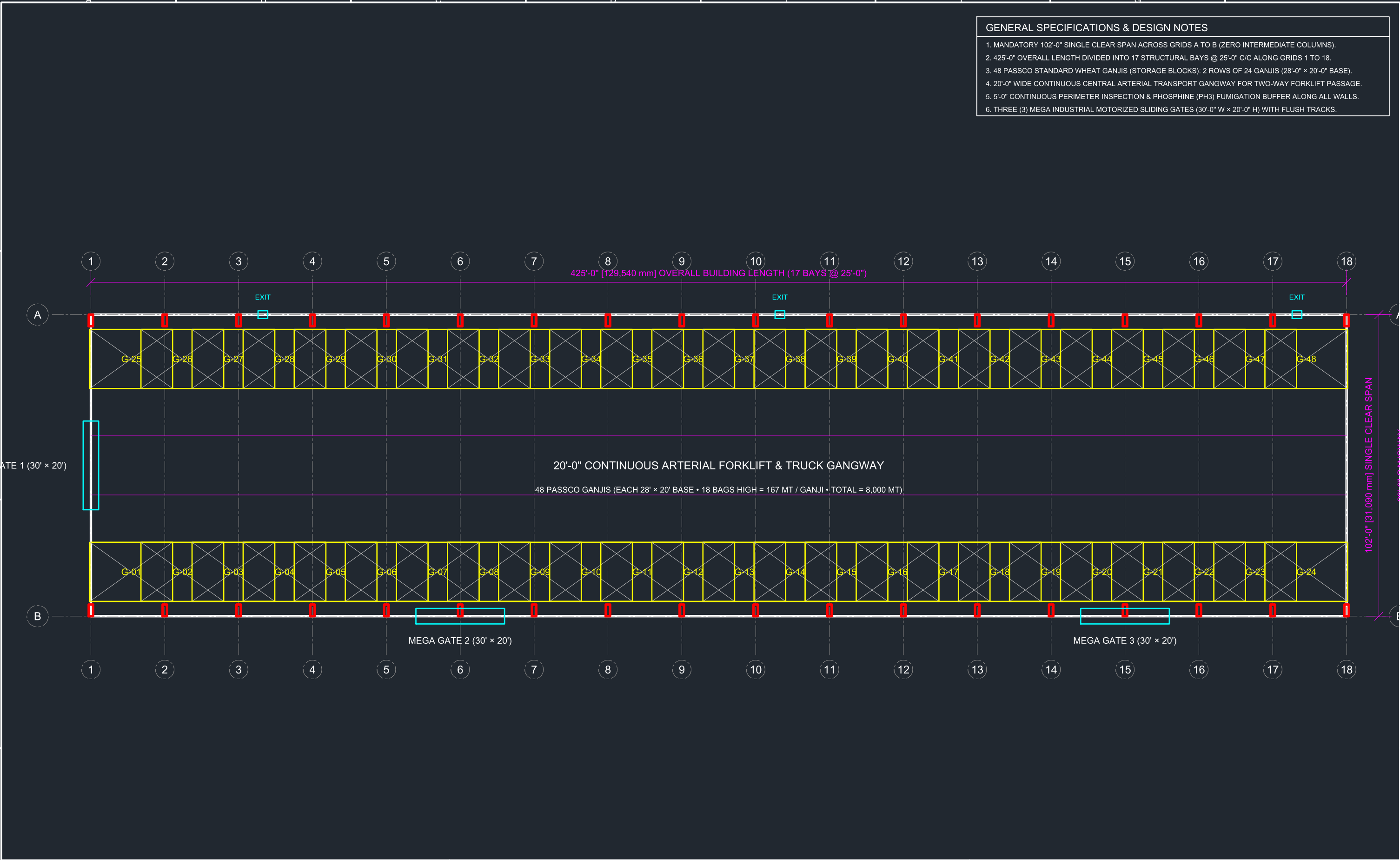
		GENERAL SPECIFICATIONS & DESIGN NOTES	
LOAD CATEGORY	DESIGN VALUE	ENGINEERING BASIS & CODE REFERENCE	REMARKS
		DESIGNING BASED ON: BCP 2021 AND MBMA 2018 METAL BUILDING SYSTEMS MANUAL.	
Dead Load (Roof D)	0.25 kN/m²	2. SEISMIC RESISTANCE VERIFIED FOR ISLAMAAB ZONE 2B/R PER BCP 2021 & ASCE 7-16 (R=3.5, Ie=1.25).	
Roof Live Load (Lr)	0.57 kN/m²	3. BASIC WIND SPEED: 150 KM/H (41.7 M/S) 3-SEC GUST PER BCP 2021 CHAPTER 5, EXPOSURE CATEGORY-C.	
Wind Speed (V)	150 km/h (41.7 m/s)	4. FLOOR SLAB DESIGNED FOR 80 KN/M² STATIC WHEAT SURCHARGE (PASSCO 18-BAG VERTICAL DUNNAGE STACK).	
Wind Velocity Pressure	qz = 1.25 kN/m²	5. ALL HIGH-STRENGTH BOLTS ASTM A325 / A390 INSTALLED PER RCSC SPECIFICATION TO PROOF TENSION.	
Internal Pressure Coeff.	GCpi = ±0.18	6. ALL HIGH-STRENGTH BOLTS ASTM A325 / A390 INSTALLED PER RCSC SPECIFICATION TO PROOF TENSION.	
Seismic Zone	Zone 2B / 3 (PGA 0.24g)	Design wind pressure at eave height (35'-0" / 10.67m) per ASCE 7-16 Eq. 26-10-1	
Seismic Parameters	Ss=0.48g, S1=0.18g	Design wind pressure at eave height (35'-0" / 10.67m) per ASCE 7-16 Eq. 26-10-1	
Wheat Surcharge Load	60.0 kN/m²	Design wind pressure at eave height (35'-0" / 10.67m) per ASCE 7-16 Eq. 26-10-1	

COMBO ID	AISC LRFD COMBINATION	SERVICEABILITY CRITERIA & DEFLECTION LIMITS
LC-01 (Dead Only)	1.4 D	Structure self-weight safety factor
LC-02 (Gravity Max)	1.2 D + 1.6 Lr + 0.5 W	Maximum roof live load with collateral wind
LC-03 (Wind Pressure)	1.2 D + 1.0 W + 0.5 Lr	Lateral frame sway drift limit: $\Delta_{lateral} \leq \text{Eave Height} / 150$ (71.1 mm)
LC-04 (Wind Uplift)	0.9 D + 1.0 W	Overturning & net uplift check: Anchor bolt tensile hold-down safety factor > 1.5
LC-05 (Seismic Max)	1.2 D + 1.0 E + 0.2 Lr	Inelastic seismic inter-story drift limit: $\Delta_{seismic} \leq 0.020 \times \text{Height}$ (213 mm)
LC-06 (Seismic Min)	0.9 D + 1.0 E	Base shear key & foundation anchor tension under seismic excitation
Service Rafter Limit	D + Lr (Serviceability)	Vertical live load rafter apex deflection limit: $\Delta_{vert} \leq \text{Span} / 180$ (172.7 mm)

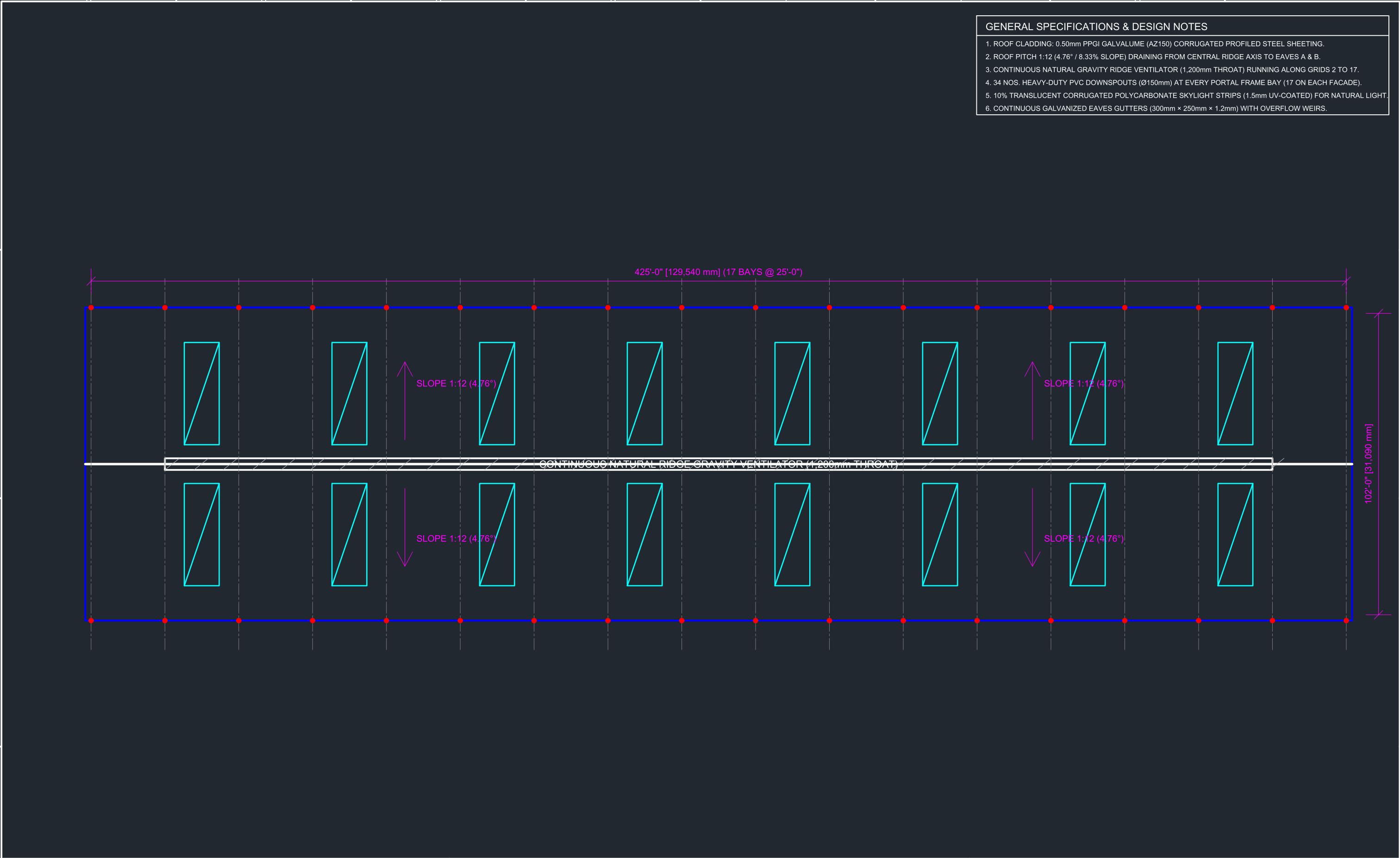
FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO: G-002	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: Ministry of Food, Govt of Gilgit-Baltistan		GENERAL STRUCTURAL DESIGN CRITERIA & CODES DISCIPLINE: STRUCTURAL CRITERIA		SCALE (A3): N.T.S.	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				SHEET SIZE: ISO A3 (420 × 297 mm)	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
				STATUS: ISSUED FOR TENDER & FABRICATION	



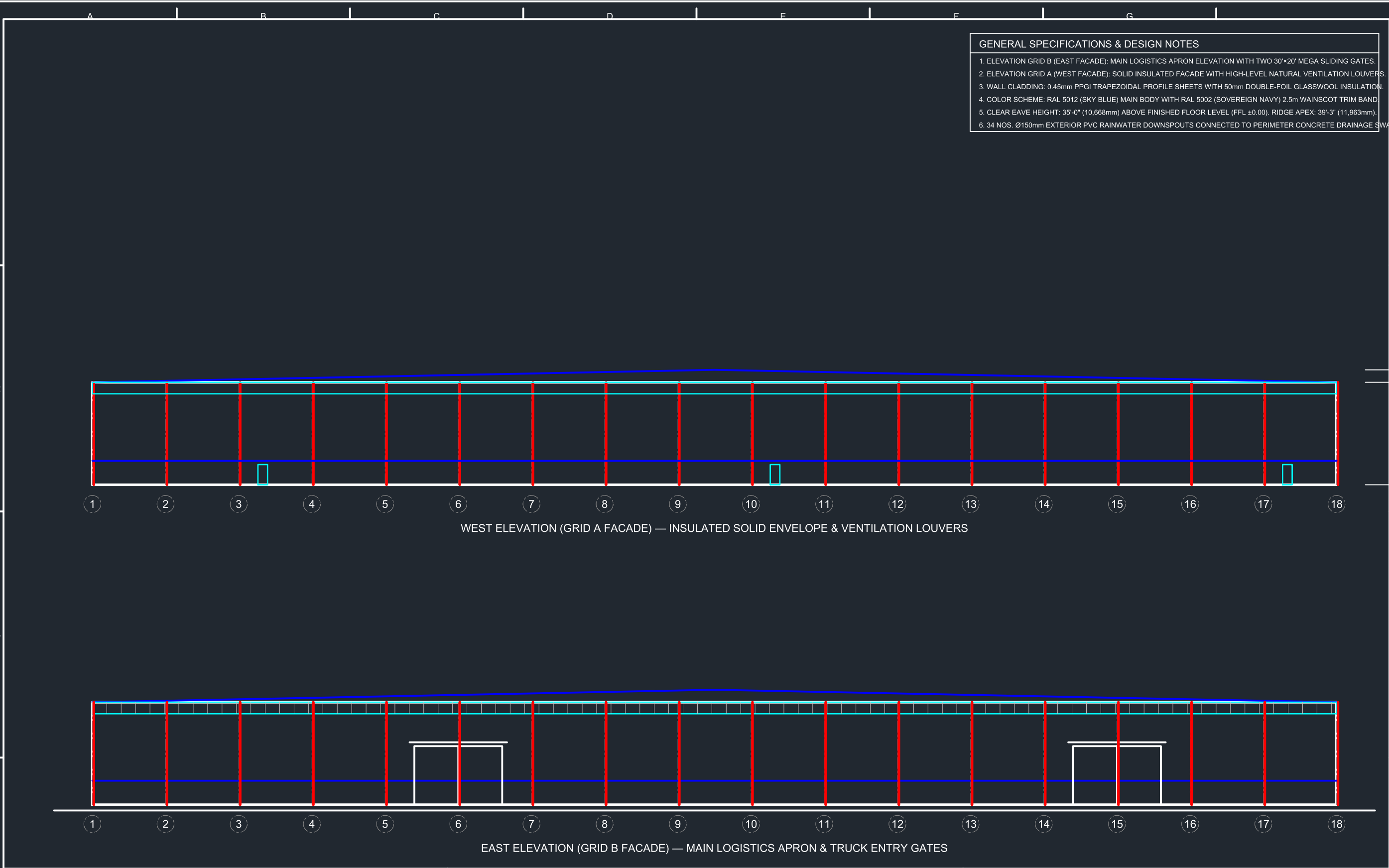
FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO:	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Farm House, Agha Patel, Rawalpindi Road, Lahore • EPC License No. 7009420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		MASTER SITE PLAN & LOGISTICS SETTING OUT		A-101	
		DISCIPLINE:		SCALE (A3): 1:750 @ A3	
		ARCHITECTURAL / MASTER PLAN		SHEET SIZE: ISO A3 (420 × 297 mm)	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
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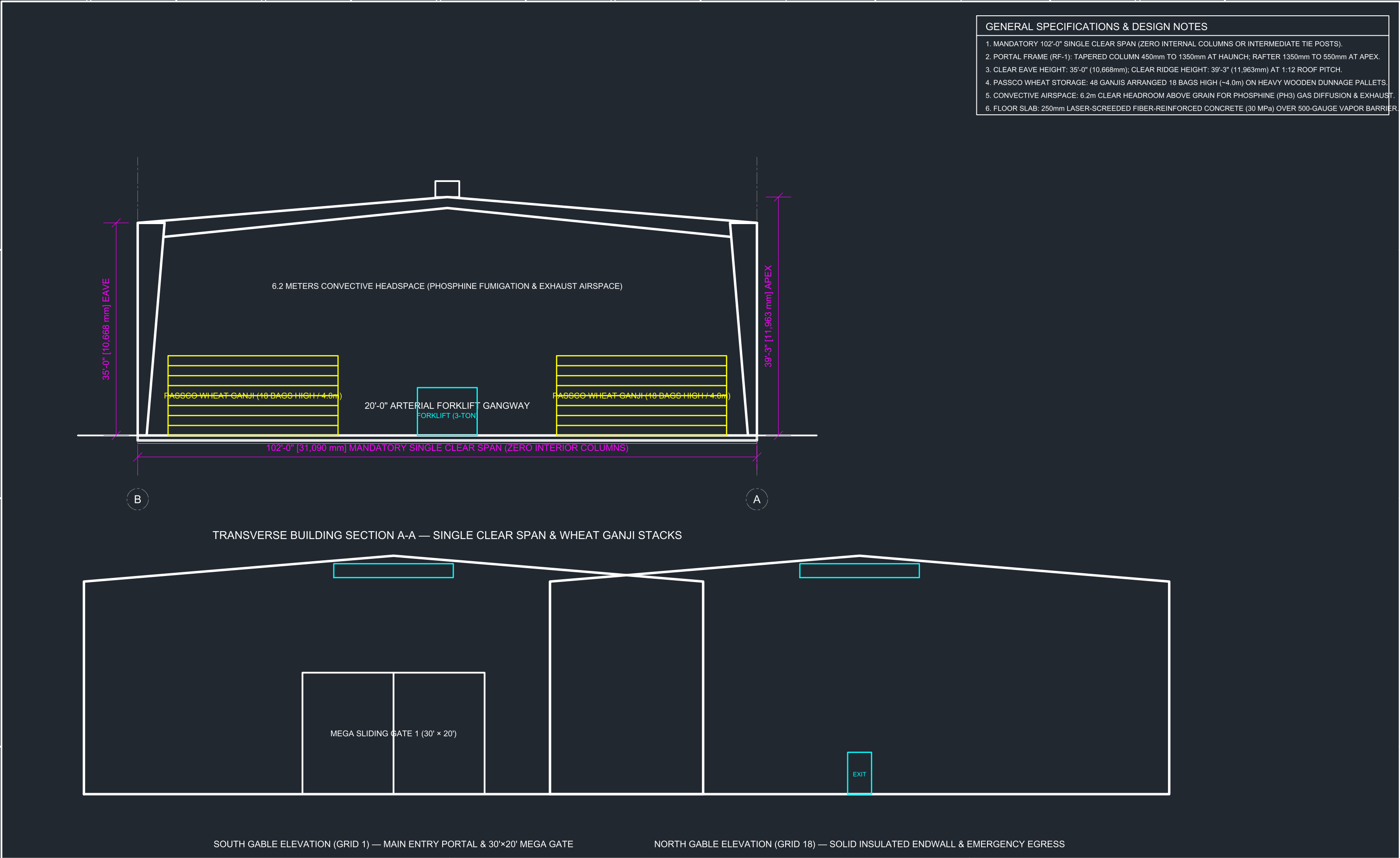
FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:	DRAWING NO:
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 16 Farm House, 42nd Street, Rawalpindi, Pakistan. PSC License: C/A/00420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		GROUND FLOOR ARCHITECTURAL PLAN & 48 GANJIS	A-102
PROJECT: 102' x 425' x 35' STRATEGIC WHEAT RESERVE GODOWN		DISCIPLINE: ARCHITECTURAL	SCALE (A3): 1:300 @ A3
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		DRAWN BY: Engr. A. Malik	SHEET SIZE: ISO A3 (420 x 297 mm)
		CHECKED BY: Dr. A. Farooq, PE	ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER
		APPROVED BY: Mian Usman, MD	STATUS: ISSUED FOR TENDER & FABRICATION
		DATE & REV: SEPTEMBER 2026 • REV 01	



FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO: A-103	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Farm House, Aida Paf, Rawalpindi, Lahore EPC License # 709420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		ROOF PLAN, RIDGE VENTILATORS & DRAINAGE DISCIPLINE: ARCHITECTURAL		SCALE (A3): 1:300 @ A3	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
				STATUS: ISSUED FOR TENDER & FABRICATION	

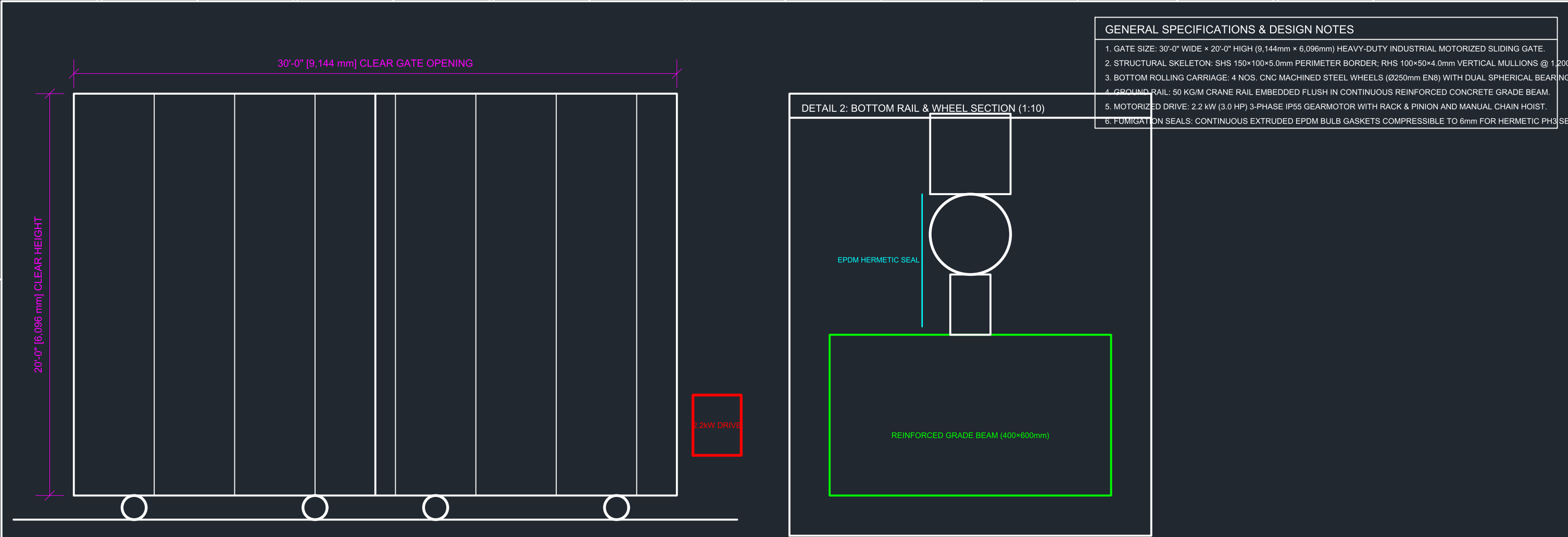


FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO:	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: Ministry of Agriculture, Government of Punjab, Pakistan (PSC License: G-70042)		LONGITUDINAL FACADE ELEVATIONS (GRID A & GRID B)		SCALE (A3): 1:300 @ A3	
DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		DISCIPLINE: ARCHITECTURAL		SHEET SIZE: ISO A3 (420 × 297 mm)	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
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- GENERAL SPECIFICATIONS & DESIGN NOTES
- MANDATORY 102'-0" SINGLE CLEAR SPAN (ZERO INTERNAL COLUMNS OR INTERMEDIATE TIE POSTS).
 - PORTAL FRAME (RF-1): TAPERED COLUMN 450mm TO 1350mm AT HAUNCH; RAFTER 1350mm TO 550mm AT APEX.
 - CLEAR EAVE HEIGHT: 35'-0" (10,668mm); CLEAR RIDGE HEIGHT: 39'-3" (11,963mm) AT 1:12 ROOF PITCH.
 - PASSCO WHEAT STORAGE: 48 GANJIS ARRANGED 18 BAGS HIGH (~4.0m) ON HEAVY WOODEN DUNNAGE PALLETS.
 - CONVECTIVE AIRSPACE: 6.2m CLEAR HEADROOM ABOVE GRAIN FOR PHOSPHINE (PH3) GAS DIFFUSION & EXHAUST.
 - FLOOR SLAB: 250mm LASER-SCREEDED FIBER-REINFORCED CONCRETE (30 MPa) OVER 500-GAUGE VAPOR BARRIER.

FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO: A-105	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Fern House, Ayala Plot, Rawalpindi Road, Lahore • EPC License # 709420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		GABLE ELEVATIONS & BUILDING CROSS SECTION A-A DISCIPLINE: ARCHITECTURAL		SCALE (A3): 1:150 @ A3	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				SHEET SIZE: ISO A3 (420 × 297 mm)	
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DETAIL 1: 30'x20' MOTORIZED MEGA SLIDING GATE ELEVATION (BI-PARTING LEAVES)

DETAIL 2: BOTTOM RAIL & WHEEL SECTION (1:10)

GENERAL SPECIFICATIONS & DESIGN NOTES

- GATE SIZE: 30'-0" WIDE x 20'-0" HIGH (9,144mm x 6,096mm) HEAVY-DUTY INDUSTRIAL MOTORIZED SLIDING GATE.
- STRUCTURAL SKELETON: SHS 150x100x5.0mm PERIMETER BORDER; RHS 100x50x4.0mm VERTICAL MULLIONS @ 1,200mm.
- BOTTOM ROLLING CARRIAGE: 4 NOS. CNC MACHINED STEEL WHEELS (Ø250mm EN8) WITH DUAL SPHERICAL BEARINGS.
- GROUND RAIL: 50 KG/M CRANE RAIL EMBEDDED FLUSH IN CONTINUOUS REINFORCED CONCRETE GRADE BEAM.
- MOTORIZED DRIVE: 2.2 kW (3.0 HP) 3-PHASE IP55 GEARMOTOR WITH RACK & PINION AND MANUAL CHAIN HOIST.
- FUMIGATION SEALS: CONTINUOUS EXTRUDED EPDM BULB GASKETS COMPRESSIBLE TO 6mm FOR HERMETIC PH3 SEALING.

ITEM	MECHANICAL / STRUCTURAL COMPONENT	SPECIFICATION	FUNCTION / PERFORMANCE
01	Perimeter Tubular Frame	SHS 150×100×5.0mm (A500 Gr B)	Main rigid gate skeleton resisting 150 km/h wind
02	Internal Mullions & Rails	RHS 100×50×4.0mm @ 1,200mm c/c	Intermediate cladding support & torsional stability
03	Bottom Roller Wheels	Ø250mm EN8 Forged Steel (4 nos.)	Dual spherical roller bearings, 10-ton dynamic rating
04	Embedded Ground Rail	50 kg/m Heavy Industrial Crane Rail	Flush embedment with non-shrink epoxy grout bed
05	Electric Gearmotor Drive	2.2 kW IP55, 380V 3-Phase with VFD	Rack & pinion drive, 0.25 m/s speed, manual override

FUSION DEVELOPERS (PVT) LTD

Structural Steel Fabricators • Turnkey Industrial EPC Constructors
CLIENT / PROCURING AGENCY:
15 Farm House, G-10/2, Rawalpindi, Pakistan. PSC License: C/A/00420
DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN

PROJECT:
102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN

LOCATION:
ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN

DRAWING TITLE:

30'x20' MEGA INDUSTRIAL SLIDING GATE DETAILS
DISCIPLINE:
ARCHITECTURAL / MECHANICAL

DRAWN BY:
Engr. A. Malik

APPROVED BY:
Mian Usman, MD

CHECKED BY:
Dr. A. Farooq, PE

DATE & REV:
SEPTEMBER 2026 • REV 01

DRAWING NO:

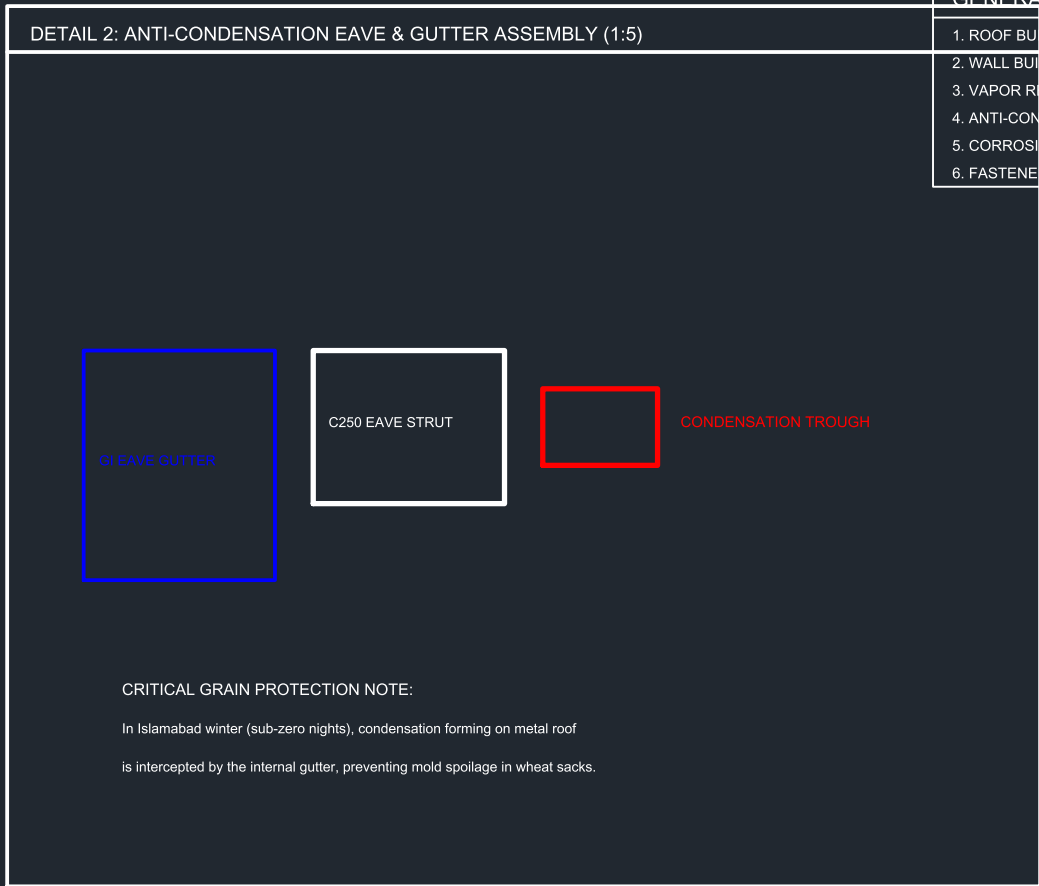
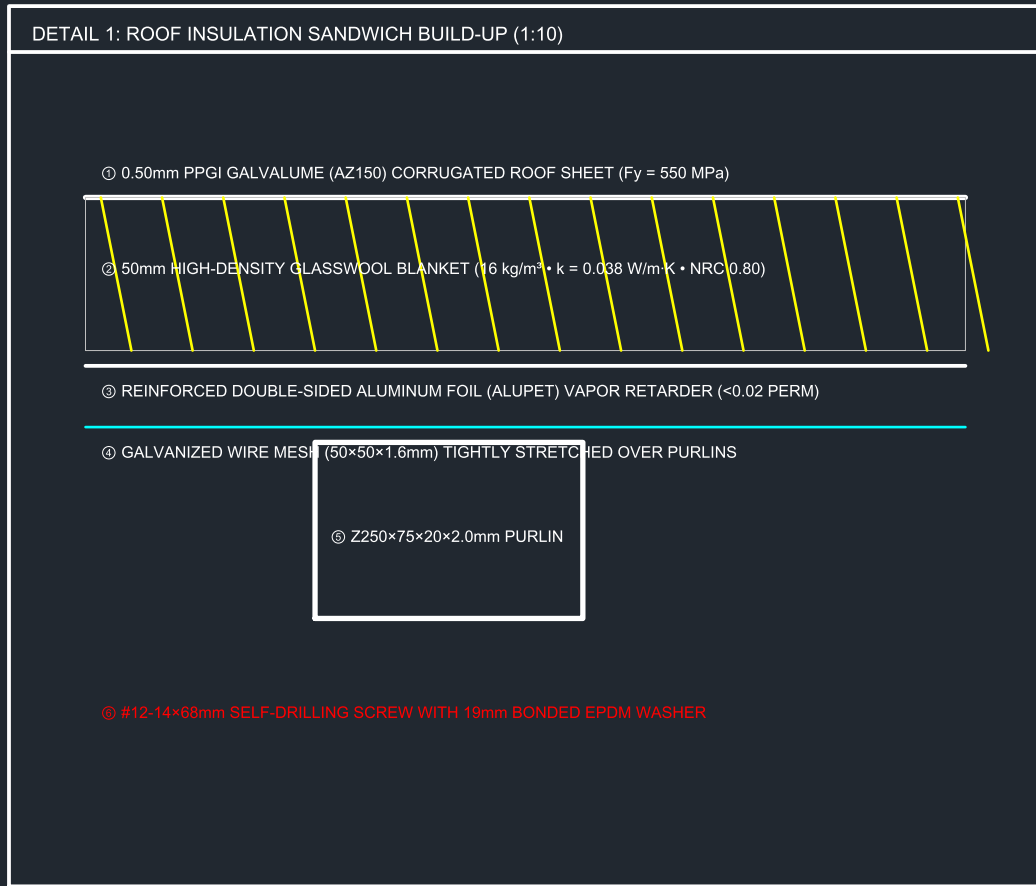
A-106

SCALE (A3):
1:25 / 1:10 @ A3

SHEET SIZE:
ISO A3 (420 × 297 mm)

ENGINEERING STAMP:
CERTIFIED EPC TENDER DOSSIER

STATUS:
ISSUED FOR TENDER & FABRICATION



GENERAL SPECIFICATIONS & DESIGN NOTES	
1. ROOF BUILD-UP: 0.50mm PPGI AZ150 GALVALUME + 50mm GLASSWOOL (16 kg/m³) + REINFORCED ALUPET FOIL.	
2. WALL BUILD-UP: 0.45mm PPGI PROFILE + 50mm GLASSWOOL + ALUPET VAPOR RETARDER + Z200 GIRTS.	
3. VAPOR RETARDER: DOUBLE-SIDED REINFORCED ALUMINUM FOIL (PERM RATING < 0.02) WITH 75mm TAPED OVERLAPS.	
4. ANTI-CONDENSATION EAVE DETAIL: CONTINUOUS CONDENSATION DRAINAGE TROUGH PREVENTING WATER DROPS ON GRAIN.	
5. CORROSION RATING: AZ150 METALLIC COATING (150 g/m² 55% Al-Zn ALLOY) WITH 25µm BAKED POLYESTER TOPCOAT.	
6. FASTENERS: #12-14x68mm SELF-DRILLING CORROSION-COATED SCREWS WITH INTEGRAL 19mm BONDED EPDM WASHERS.	

Envelope Property	Engineering Specification	Measured Value	Food Security Standard
Thermal Transmittance (U)	50mm Glasswool + Alupet Foil	U = 0.58 W/m²·K	Eliminates thermal bridging & dew point
Vapor Permeance	Reinforced Aluminum Barrier	0.018 US perms	Hermetic retention during phosphine fumigation
Acoustic Damping	High-density mineral fiber blanket	NRC 0.80 / STC 28	Dampens heavy monsoon rain noise on roof
Fire Hazard Rating	ASTM E84 / BS 476 Part 6 & 7	Class A / Class 1	Non-combustible core (Zero flame spread)
Atmospheric Durability	Galvalume AZ150 Metallic Coating	55% Al, 43.4% Zn, 1.6% Si	25-Year perforation warranty in humid climates

FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO:	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 16 Farm House, P.O. Box 161, Rawalpindi Road, Lahore - EPC License: G-14-00420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		DISCIPLINE: ARCHITECTURAL / ENVELOPE		A-107	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				SCALE (A3): 1:10 / 1:5 @ A3	
				SHEET SIZE: ISO A3 (420 × 297 mm)	
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				STATUS: ISSUED FOR TENDER & FABRICATION	

- GENERAL SPECIFICATIONS & DESIGN NOTES
1. FOUNDATIONS DESIGNED PER ACI 318-19 & BCP 2021 FOR ALLOWABLE SOIL BEARING CAPACITY = 175 kN/m².

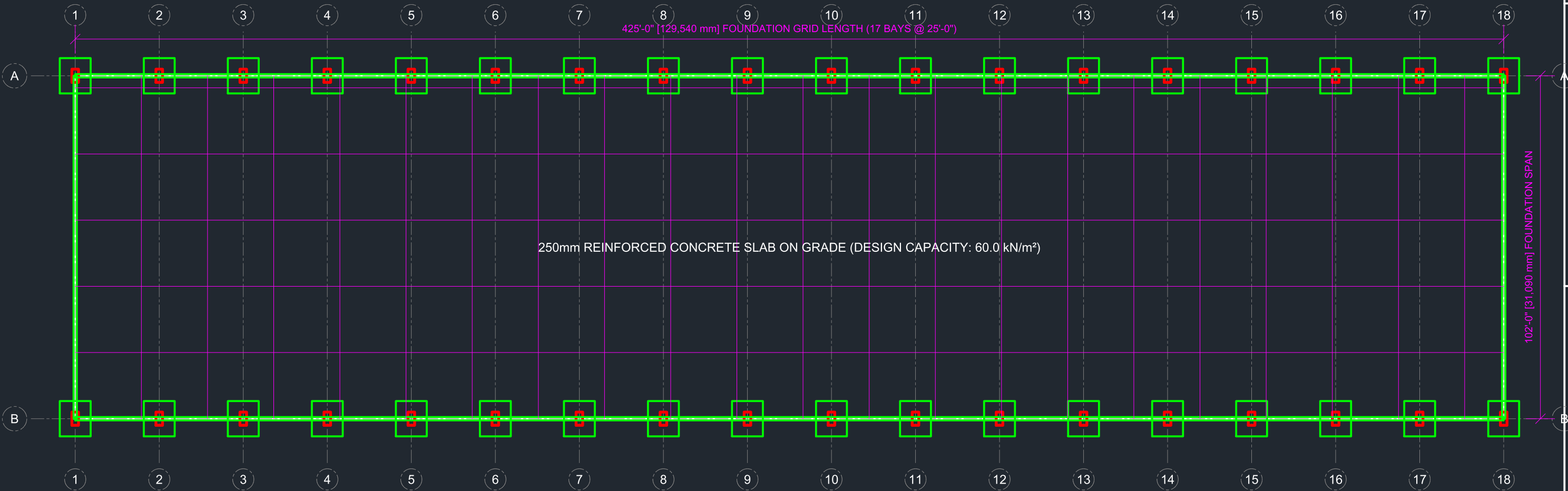
2. ISOLATED FOOTINGS F1 (36 NOS.): 3,200mm × 2,800mm × 700mm THICK REINFORCED CONCRETE (f_c' = 28 MPa).

3. REINFORCED PEDESTALS C1: 600mm × 1,200mm × 1,200mm HIGH WITH 12 NOS. T25 VERTICALS & T10 TIES @ 100/150mm.

4. CONTINUOUS PLINTH TIE BEAMS TB-1: 300mm × 600mm WITH 6 NOS. T20 REBAR ALONG ALL COLUMN LINES.

5. FLOOR SLAB: 250mm HEAVY-DUTY CONCRETE (30 MPa) WITH SYNTHETIC FIBERS (0.9 kg/m³) + DOUBLE REBAR MESH.

6. GRAIN SURCHARGE CAPACITY: 60.0 kN/m² FOR PASSCO 18-BAG VERTICAL WHEAT BAG DUNNAGE STACKS.



MARK	STRUCTURAL ELEMENT	DIMENSIONS (mm)	REINFORCEMENT	CONCRETE GRADE
F1	Portal Pad Footing (36 nos.)	3,200 × 2,800 × 700	Bottom: T20 @ 150mm B/W	f _c ' = 28 MPa
C1	Column Pedestal (36 nos.)	600 × 1,200 × 1,200	12-T25 Verticals, T10 Ties	f _c ' = 28 MPa
TB-1	Plinth Tie Beam (Perimeter)	300 × 600 continuous	6-T20 Rebar, T10 @ 150mm	f _c ' = 28 MPa
SLAB	Floor Slab on Grade (60 kN/m²)	250mm thick	Polypropylene + Mesh A252	f _c ' = 30 MPa

FUSION DEVELOPERS (PVT) LTD

Structural Steel Fabricators • Turnkey Industrial EPC Constructors
CLIENT / PROCURING AGENCY:
15 Fern House, Aida Plot, Rawalpindi Road, Lahore • EPC License # 1009420
DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN

PROJECT:
102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN

LOCATION:
ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN

DRAWING TITLE:

FOUNDATION LAYOUT & 250MM HEAVY SLAB PLAN
DISCIPLINE:
STRUCTURAL / FOUNDATIONS

DRAWN BY:
Engr. A. Malik

APPROVED BY:
Mian Usman, MD

CHECKED BY:
Dr. A. Farooq, PE

DATE & REV:
SEPTEMBER 2026 • REV 01

DRAWING NO:

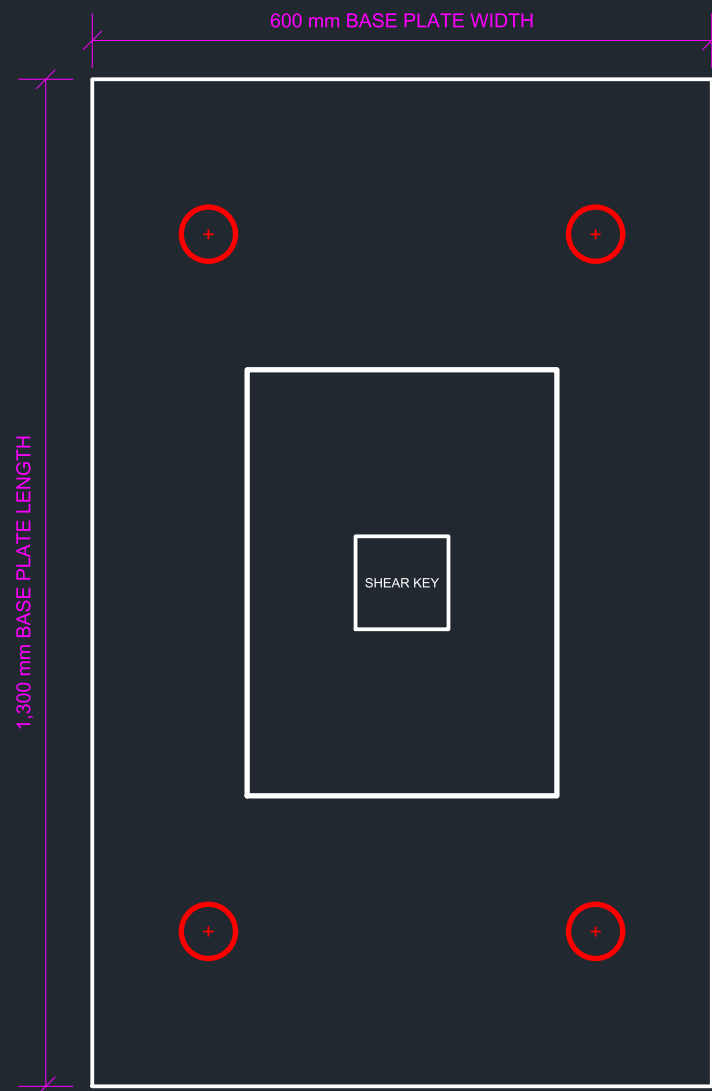
S-101

SCALE (A3):
1:300 @ A3

SHEET SIZE:
ISO A3 (420 × 297 mm)

ENGINEERING STAMP:
CERTIFIED EPC TENDER DOSSIER

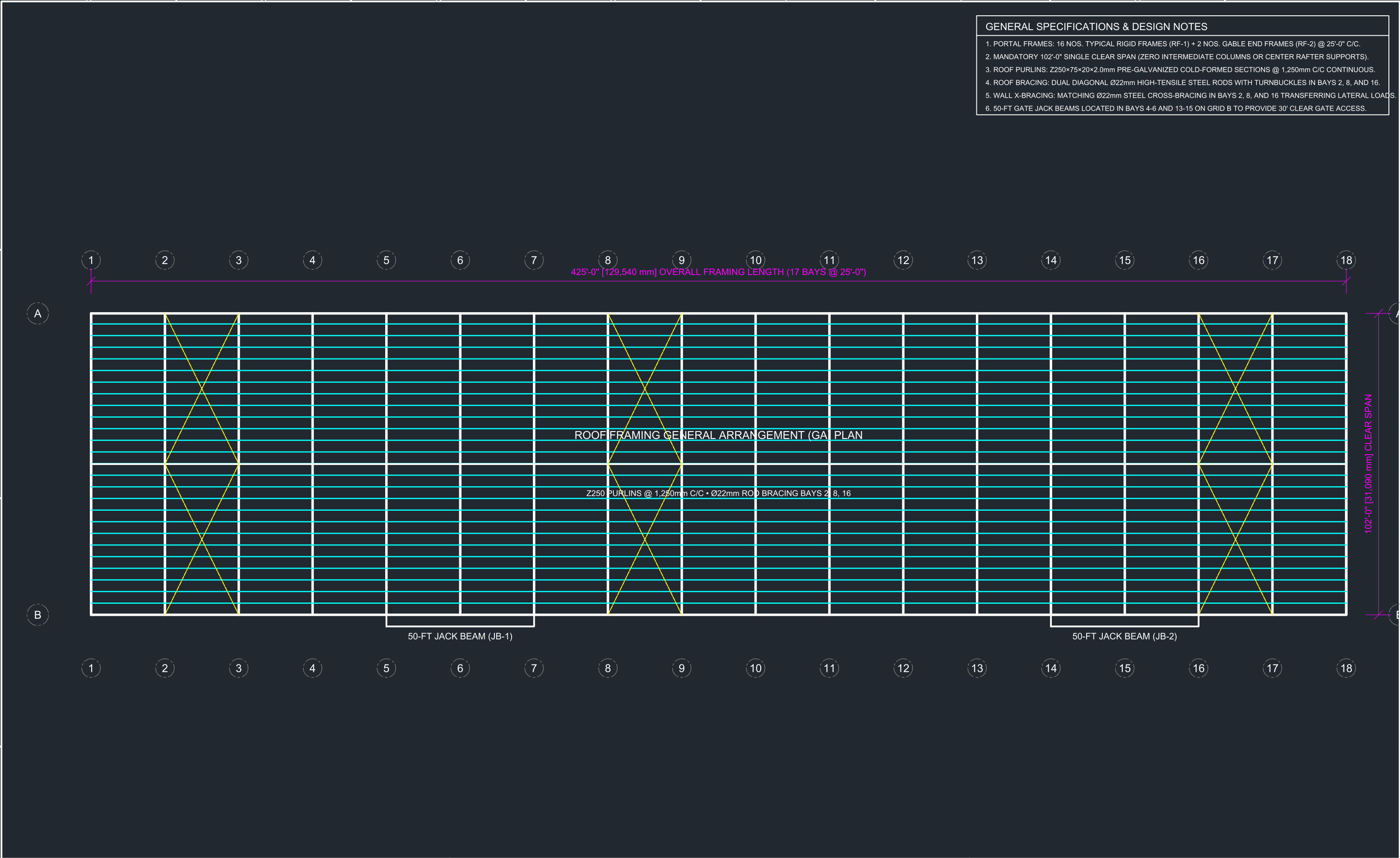
STATUS:
ISSUED FOR TENDER & FABRICATION



DETAIL 1: COLUMN BASE PLATE (BP-1) SETTING PLAN (1:10)

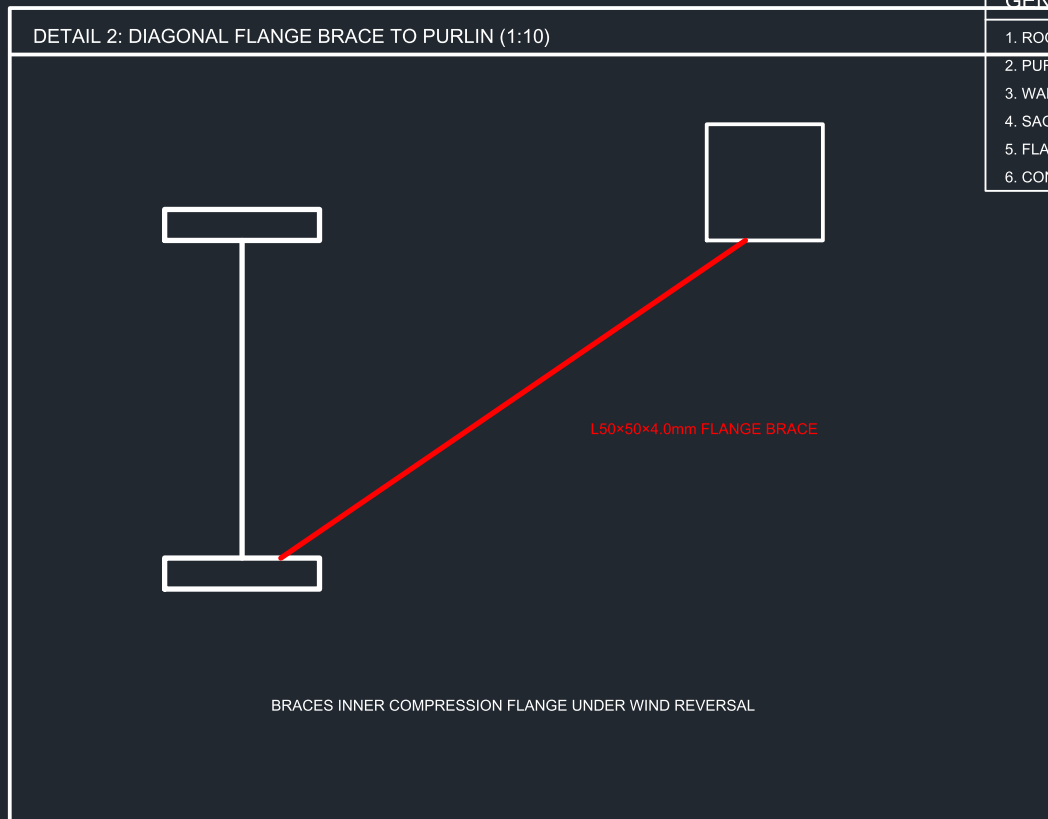
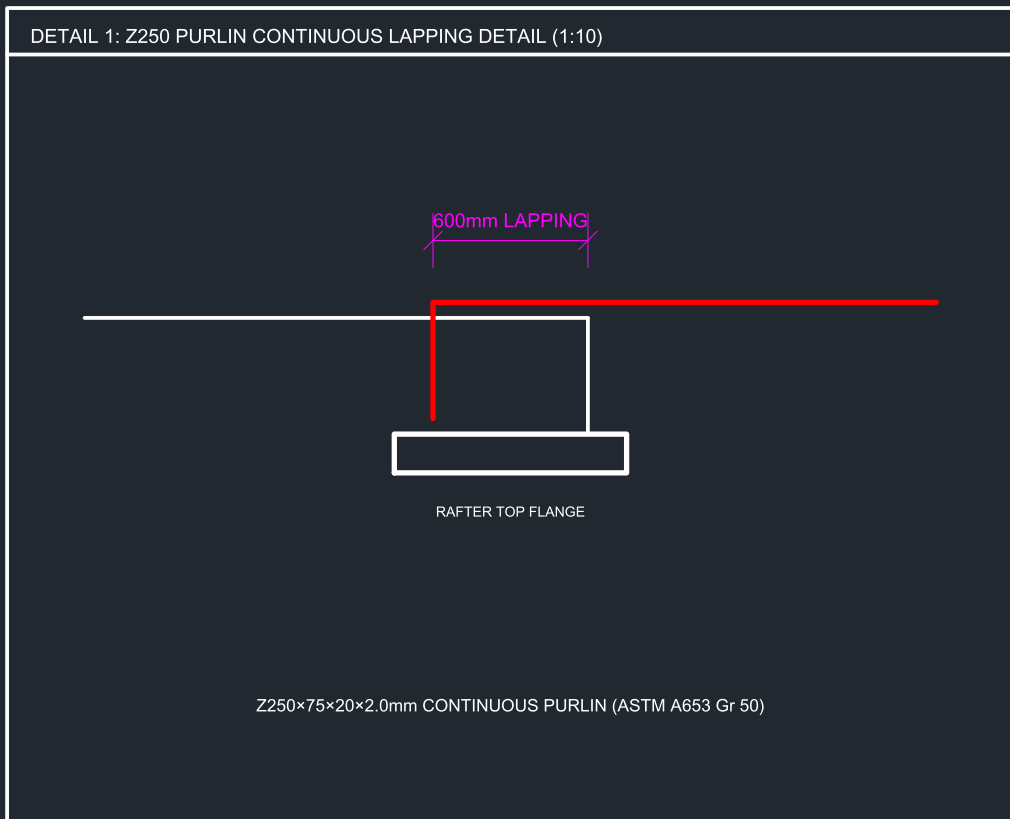
MARK	LOCATION	DIAMETER & GRADE	LENGTH & HOOK	BASE PLATE	DESIGN TENSION
AB-1	Main Portal Frames (32 cols)	4 Nos. Ø36mm Gr 8.8	900mm Embed + 150mm Hook	600×1,300×25mm	185 kN Uplift
AB-2	Gate Jack Columns (4 cols)	6 Nos. Ø36mm Gr 8.8	1,000mm Embed + 150mm Hook	700×1,400×30mm	290 kN Uplift
AB-3	Endwall Wind Posts (8 cols)	4 Nos. Ø27mm Gr 8.8	750mm Embed + 100mm Hook	450×450×20mm	95 kN Uplift

FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		S-102	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15, Phase House, Arida Plot, Rawalpindi, Lahore / EPC License: F/A/00420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		ANCHOR BOLT SETTING PLAN & COLUMN BASE PLATES DISCIPLINE: STRUCTURAL / DETAILS		SCALE (A3): 1:20 / 1:10 @ A3	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				SHEET SIZE: ISO A3 (420 × 297 mm)	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
				STATUS: ISSUED FOR TENDER & FABRICATION	



FUSION DEVELOPERS (PVT) LTD		DRAWING TITLE:		DRAWING NO:	
Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Farm House, Adala Paf, Rawalpindi, Lahore EPC License # 100420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN		DISCIPLINE:		SCALE (A3):	
		STRUCTURAL STEEL		1:300 @ A3	
PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN		DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE	
LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN		APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01	
				SHEET SIZE: ISO A3 (420 × 297 mm)	
				ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER	
				STATUS: ISSUED FOR TENDER & FABRICATION	

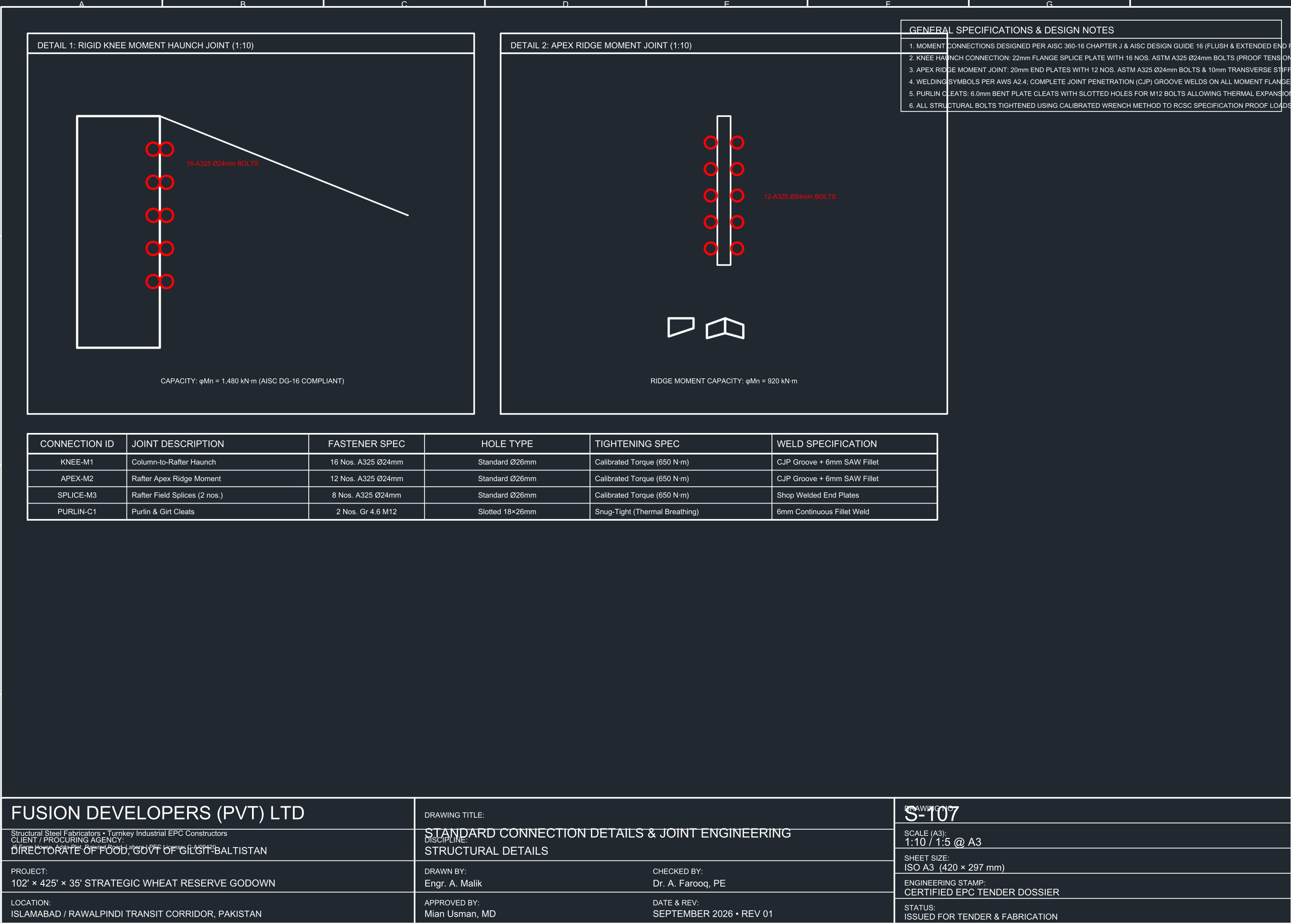
GENERAL SPECIFICATIONS & DESIGN NOTES			
1.	PORTAL FRAME (RF-1): ASTM A572 GRADE 50 BUILT-UP I-SECTIONS (YIELD STRENGTH $F_y = 345$ MPa).		
2.	TAPERED COLUMN: 450mm DEPTH AT BASE TAPERING TO 1,350mm AT KNEE HAUNCH; 35°-0' (10,668mm) HEIGHT.		
3.	TAPERED RAFTER: 1,350mm DEPTH AT KNEE TAPERING TO 750mm AT SPLICE AND 550mm AT RIDGE APEX.		
4.	MOMENT RESISTING JOINTS	SECTION SIZES (mm)	STEEL WEIGHT
5.	WELDING	MOMENT RESISTING JOINTS: 2 FIELD SPLICES PER MEMBER WITH 20mm END PLATES X 8 N. NOS. ASTM A325 Ø24mm BOLTS.	
6.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
7.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
8.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
9.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
10.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
11.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
12.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
13.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
14.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
15.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
16.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
17.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
18.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
19.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
20.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
21.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
22.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
23.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
24.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
25.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
26.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
27.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
28.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
29.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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31.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
32.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
33.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
34.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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37.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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44.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
45.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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47.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
48.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
49.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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51.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
52.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
53.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
54.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
55.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
56.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
57.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
58.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
59.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
60.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
61.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
62.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
63.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
64.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
65.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
66.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
67.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
68.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
69.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
70.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
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72.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
73.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
74.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
75.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
76.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
77.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
78.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1
79.	100% ULTRA-SONIC TESTING	WELDING	ARC WELDING (SAW) PER AWS D1

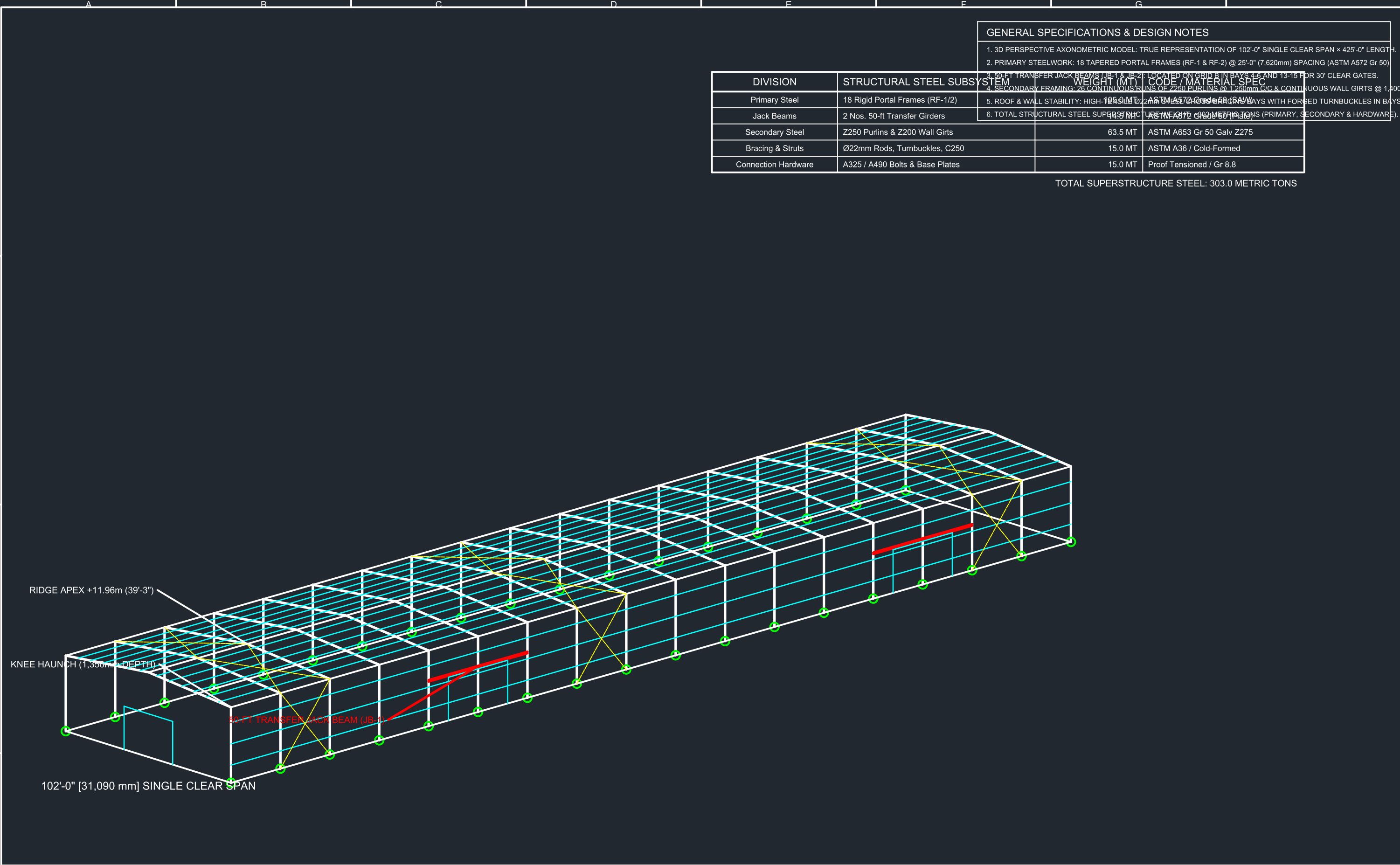


GENERAL SPECIFICATIONS & DESIGN NOTES	
1.	ROOF PURLINS: Z250x75x20x2.0mm PRE-GALVANIZED COLD-FORMED SECTIONS (ASTM A653 Gr 50, Z275).
2.	PURLIN SPACING: 1,250mm C/C MAXIMUM ACROSS 102' SPAN; NESTED & LAPPED 600mm OVER RAFTERS.
3.	WALL GIRTS: Z200x65x20x1.8mm PRE-GALVANIZED SECTIONS @ 1,400mm C/C MOUNTED FLUSH ON COLUMNS.
4.	SAG ROD SYSTEM: Ø12mm GALVANIZED SAG RODS AT 1/3-SPAN POINTS TERMINATING IN RIDGE STRUTS.
5.	FLANGE BRACING: 50x50x4.0mm ANGLE BRACES FROM PURLINS TO BOTTOM RAFTER FLANGE AT 3.0m INTERVALS.
6.	CONTINUOUS MULTI-SPAN BEAM ACTION: 600mm LAPPING PROVIDES 30% STIFFNESS & CAPACITY ENHANCEMENT.

MARK	COMPONENT NAME	CROSS SECTION (mm)	MATERIAL SPECIFICATION	SPACING & LAPPING
P1	Roof Purlins	Z250×75×20×2.0	ASTM A653 Gr 50 Galv Z275	1,250mm c/c, 600mm nested lap
G1	Sidewall & End Girts	Z200×65×20×1.8	ASTM A653 Gr 50 Galv Z275	1,400mm c/c continuous bypass
ES1	Eave Struts	C250×75×20×3.0	Cold-formed galvanized channel	Continuous compression strut at eaves
SR1	Sag Rods & Struts	Ø12mm round bar + C150	Hot-dip galvanized mild steel	Third-point spacing (8'-4" / 2.54m)

FUSION DEVELOPERS (PVT) LTD Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Farm House, Arida Plot, Rawalpindi Road, Lahore • EPC License: G-4/00420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN PROJECT: 102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN LOCATION: ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN	DRAWING TITLE: SECONDARY COLD-FORMED STEEL FRAMING (PURLINS & GIRTS)		DRAWING NO: S-106
	DISCIPLINE: SECONDARY FRAMING		SCALE (A3): 1:25 / 1:10 @ A3
	DRAWN BY: Engr. A. Malik		CHECKED BY: Dr. A. Farooq, PE
	APPROVED BY: Mian Usman, MD		DATE & REV: SEPTEMBER 2026 • REV 01
			STATUS: ISSUED FOR TENDER & FABRICATION
ENGINEERING STAMP: CERTIFIED EPC TENDER DOSSIER			
SHEET SIZE: ISO A3 (420 × 297 mm)			





GENERAL SPECIFICATIONS & DESIGN NOTES

- 3D PERSPECTIVE AXONOMETRIC MODEL: TRUE REPRESENTATION OF 102'-0" SINGLE CLEAR SPAN × 425'-0" LENGTH.
- PRIMARY STEELWORK: 18 TAPERED PORTAL FRAMES (RF-1 & RF-2) @ 25'-0" (7,620mm) SPACING (ASTM A572 Gr 50).
- 50-FT TRANSFER JACK BEAMS (JB-1 & JB-2): LOCATED ON GRID B IN BAYS 4-6 AND 13-15 FOR 30' CLEAR GATES.
- SECONDARY FRAMING: 26 CONTINUOUS RUNS OF Z250 PURLINS @ 1,250mm C/C & CONTINUOUS WALL GIRTS @ 1,400mm.
- ROOF & WALL STABILITY: HIGH-TENSILE Ø22mm RODS, TURNBUCKLES IN BAYS 2, 8, 16.
- TOTAL STRUCTURAL STEEL SUPERSTRUCTURE WEIGHT: 303.0 METRIC TONS (PRIMARY, SECONDARY & HARDWARE).

DIVISION	STRUCTURAL STEEL SUBSYSTEM	WEIGHT (MT)	CODE / MATERIAL SPEC
Primary Steel	18 Rigid Portal Frames (RF-1/2)	185.9 MT	ASTM A572 Gr 50 (Plate)
Jack Beams	2 Nos. 50-ft Transfer Girders	4.5 MT	ASTM A572 Gr 50 (Plate)
Secondary Steel	Z250 Purlins & Z200 Wall Girts	63.5 MT	ASTM A653 Gr 50 Galv Z275
Bracing & Struts	Ø22mm Rods, Turnbuckles, C250	15.0 MT	ASTM A36 / Cold-Formed
Connection Hardware	A325 / A490 Bolts & Base Plates	15.0 MT	Proof Tensioned / Gr 8.8

TOTAL SUPERSTRUCTURE STEEL: 303.0 METRIC TONS

FUSION DEVELOPERS (PVT) LTD

Structural Steel Fabricators • Turnkey Industrial EPC Constructors
CLIENT / PROCURING AGENCY:
DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN

PROJECT:
102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN

LOCATION:
ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN

DRAWING TITLE:

3D STRUCTURAL STEEL AXONOMETRIC & ASSEMBLY MODEL
DISCIPLINE:
3D CAD MODEL

DRAWN BY:
Engr. A. Malik

APPROVED BY:
Mian Usman, MD

CHECKED BY:
Dr. A. Farooq, PE

DATE & REV:
SEPTEMBER 2026 • REV 01

DRAWING NO:
3D-101

SCALE (A3):
1:450 @ A3

SHEET SIZE:
ISO A3 (420 × 297 mm)

ENGINEERING STAMP:
CERTIFIED EPC TENDER DOSSIER

STATUS:
ISSUED FOR TENDER & FABRICATION

2	STAGE 1: SUBSTRUCTURE & ANCHOR BOLTS (WEEKS 1–3) - Excavation & casting of 36 isolated footings F1 (3.2×2.8×0.7m). - Rebar cage placement & Grade 8.8 anchor bolt template setting. - Casting of 600×1,200mm pedestals & continuous tie beams TB-1. 28-Day concrete cube testing verifying $f_c' \geq 28$ MPa.												STAGE 2: COLUMN ERECTION & GROUTING (WEEKS 4–5) - Transport of 36 tapered built-up columns (450-1350mm) to site. - Erection using 25-ton mobile hydraulic crane with soft nylon slings. - Optical theodolite plumbing to verticality tolerance $\leq H/500$ (21mm). - Injection of 50mm non-shrink high-strength grout (60 MPa).												STAGE 3: TANDEM CRANE RAFTER HOISTING (WEEKS 6–8) - Ground assembly & full torquing of 102-ft rafter halves. - Dual-crane synchronized tandem lift using two 50-ton cranes. - Engagement of knee haunch moment splices with 16 nos. A325 bolts. - Calibrated torque wrench tightening to 650 N·m proof tension.												STAGE 4: 50-FT GATE JACK BEAMS (WEEKS 8–9) - Rigging & hoisting of 1,200mm deep plate girder jack beams (JB-1/2). - High-strength bolting to columns at Grids 4, 6, 13, 15 (16-A490 bolts). - Seating of intermediate portal rafter onto central bearing stool. - Installation of diagonal kicker braces (L75×75×6mm) to purlins.												STAGE 5: SECONDARY FRAMING & BRACING (WEEKS 9–11) - Erection of continuous Z250 purlins @ 1,250mm with 600mm lapping. - Installation of Z200 sidewall and endwall girts @ 1,400mm c/c. - Tensioning of Ø22mm diagonal roof and wall cross-bracing rods. - Alignment of sag rods and flange stability braces at 3.0m intervals.												STAGE 6: ENVELOPE, GATES & SLAB (WEEKS 11–15) - Laying of galvanized wire mesh + double-sided Alupet vapor barrier. - Installation of 50mm Glasswool (16 kg/m³) + 0.50mm PPGI AZ150 roof. - Hanging & alignment of three 30'×20' motorized mega sliding gates. - Laser screeding of 250mm heavy-duty floor slab (60 kN/m² capacity).												GENERAL SPECIFICATIONS & DESIGN NOTES EPC QUALITY ASSURANCE & HANDOVER PROTOCOLS OF STANDARD PRACTICE & OSHA 1926 SUBPART R (STEEL ERECTION). 2. PHASED CONSTRUCTION TIMELINE: 15 WEEKS TOTAL FROM NOTICE TO PROCEED (NTP) TO HANDOVER. 1. URGENT REVIEW & SIGNATURE REQUIRED FOR ALL CHANGES. 4. STAGE 2: PORTAL COLUMNS ERECTED VIA 25-TON CRANE, PLUMBED TO H/500, AND BASE PLATES GROUTED WITH 60 MPa GROUT. 100% CJP groove welds on knee & apex angles per AWS D1.1 Table 6.1. 5. STAGE 3: 102-FT RAFTERS PRE-ASSEMBLED ON GROUND, LIFTED IN TANDEM BY TWO 50-TON HYDRAULIC CRANES. 2. Major Parts of the Roof 7. STAGE 5: SECONDARY Z250 PURLINS, Z200 GIRTS & Ø22mm CROSS-BRACING INSTALLED TO FULLY LOCK SKELETON. 20% random check of all fillet welds joining rafter web to flanges. 8. STAGE 6: ENVELOPE INSTALLATION (0.50mm PPGI + 50mm GLASSWOOL) & THREE 30'×20' MEGA SLIDING GATES HANGING. 3. Bolt Tension Verification: Calibrated torque wrench testing on 100% of ASTM A325 / A490 bolts. 4. Frame Plumbness Survey: Total station laser survey verifying column plumbness within H/500 tolerance. 5. Foundation Load Tests: Core compressive testing of M28 foundation concrete & M30 floor slab. 6. Hermetic Fumigation Test: Smoke / pressure decay test verifying airtightness of EPDM gate seals. 7. Water Ingress Hose Test: High-pressure water jet test (200 kPa) on roof laps, eaves, and gutters. 8. Safety Compliance: 100% tie-off safety harness lifeline along ridge; zero-incident OSHA record.																																																																							
	FUSION DEVELOPERS (PVT) LTD												DRAWING TITLE:												DRAWING NO:												3D-102												SCALE (A3):												N.T.S. @ A3												SHEET SIZE:												ISO A3 (420 × 297 mm)												ENGINEERING STAMP:												CERTIFIED EPC TENDER DOSSIER												STATUS:												ISSUED FOR TENDER & FABRICATION											
	Structural Steel Fabricators • Turnkey Industrial EPC Constructors CLIENT / PROCURING AGENCY: 15 Farm House, Adra Plot, Rawalpindi, Lahore EPC License: C-A/00420 DIRECTORATE OF FOOD, GOVT OF GILGIT-BALTISTAN												3D EXPLODED CONNECTION & ERECTION SEQUENCE DISCIPLINE: ERECTION METHODOLOGY												DRAWN BY:												CHECKED BY:												APPROVED BY:												DATE & REV:												PROJECT:												102' × 425' × 35' STRATEGIC WHEAT RESERVE GODOWN												LOCATION:												ISLAMABAD / RAWALPINDI TRANSIT CORRIDOR, PAKISTAN																																			