NOTES

1. GENERAL
1.1 All civil and structural drawings must be read in conjunction with Architectural, Mechanical and Electrical drawings. Any discrepancies are to be reported to the Engineer and Principal Agent.

1.2 The contractor must verify all levels and dimensions on site before any work commences. Discrepancies must be reported to the Engineer immediately.

1.3 All waterproofing and termite proofing details to be in accordance with the Architect's specification and instructions.

1.4 All datum points by Architect.

1.5 All structural members must be temporarily propped and secured during erection to ensure the stability of the structure at all times.

1.6 Masonry adjacent to columns must be fixed with galvanized hoop iron nailed to column and built 450mm into masonry on every 6th course of masonry.

1.7 All exposed concrete corners to have 20mm chamfer.

1.8 Provide V-notch between concrete and masonry joint.

1.9 No Silicone or part thereof permitted in factory.

2. FOUNDATIONS
2.1 Excavations for foundations to be approved by the Engineer before concrete is placed.

2.2 250µm DPM to be placed under ground floor slab and adjacent to ground floor beams with minimum lap length of 300mm.

2.3 Safe bearing pressure to be 150 kPa

3. CONCRETE
Concrete characteristic 28-day strength:
Concrete Spec
i) 30a: 30MPa 19mm Stone, Sand, OPC CEM II 32.5, approved plasticizer, Water
ii) 30b: 30MPa Well graded 38mm stone 19mm stone, 13mm stone, 4.7mm crusher, Sand, OPC CEM- II 32.5, approved plasticizer, Water
iii) 25a: 25MPa 19mm Stone, Sand, OPC CEM II 32.5, approved plasticizer(if required), Water
iv) 15a: 15MPa 19mm Stone, Sand, OPC CEM II 32.5, Water
v) 30c: 30MPa, With 'Xypex' Cementitious Crystalline Waterproofing according to product specifications.

3.1 Factory Area
3.1.1 Foundation Beams & Slab: Concrete spec 30b
3.1.2 Columns, suspended slabs: Concrete spec 30a
3.1.3 Ramp: Concrete spec 30b
3.1.4 Upstand walls: Concrete spec 25a
3.1.5 Sumps or recesses below surface bed: Concrete spec 30c
3.1.6 Retaining walls: Concrete spec 25a

3.2 Ablution
3.2.1 Foundation Beams & Slab: Concrete spec 25a
3.2.2 Columns, Eaves beams: Concrete spec 25a

3.3 Administration
3.3.1 Foundation Beams & Slab: Concrete spec 25a
3.1.2 Columns, suspended slabs: Concrete spec 25a

3.4 General
3.4.1 Hardstand: Concrete spec 30b
3.4.2 Thrustblocks: Concrete spec 15a
3.4.3 Concrete backfill: 15a

3.5 All concrete, other than slabs and hard stand, to be properly cured by keeping surfaces continuously damp for at least 7 days after placing concrete.
Slabs and concrete hard stand to be cured for 7 days by covering with 250µm Green DPM after concrete has hardened. Timber scaffold planks to be placed on DPM to hold in place and prevent tunneling form wind under. Water to be placed between DPM and concrete, such that concrete remains continuously moist during 7 day curing period

3.6 Concrete formwork finishes (SANS 1200-G, Clause 5.2.1)
a) Non exposed/visible concrete: Rough
b) All exposed columns and beams: Smooth

3.7 Loading on factory ground floor slab during construction.
0-7 days: Concrete curing, no loading on ground floor slab permitted.
7-14 days: Light foot traffic permitted.
14-28 days: Light vehicles < 5 ton
28+ days: Maximum gross crane load during construction = 25 ton(excludes lifting load).
Crane outrigger base footings to be on double cross layer of 50x228mm timber spreader supports over an area of 1.0x1.0m or similar approved by Engineer to avert damage to concrete ground floor slab
Only tyre cranes permitted on slab. Slab to be cleaned after completion.

4. REINFORCEMENT
4.1 All reinforcement to be checked and approved by the Engineer before placing concrete.

4.2 Minimum cover to reinforcing:
Columns, Beams, Slabs = 40 mm
Foundations = 50 mm
Stairs = 40 mm

4.3 The Contractor must take particular care to ensure that the specified cover to all reinforcement has been attained throughout before the Engineer is called to site.

5. FORMWORK
Removal of formwork (SANS 10100-2, table 7), using ordinary Portland cement and Portland cement 15.

Description	Minimum time (Days)		
	Normal 15-32°C	Cool 5-14°C	Cold <5°C
5.1 Beam sides, walls and unloaded columns	0.75	1.2	1.5
5.2 Slabs with props left in place	4	5.5	7
5.3 Beam soffits with props left in place	7	9.5	12
5.4 Slab props	10	13.5	17
5.3 Beam props	14	17.5	21

LOAD BEARING MASONRY NOTES:
6.1 All load bearing brick walls are to be constructed of bricks having a minimum crushing strength of 28 MPa. Mortar to be class 1 (1:3 - cement:sand) but not less than 10 MPa) in accordance with the National Building regulations and SABS 0164 unless otherwise shown.

6.2 Load bearing brickwork to be erected before concrete is placed.

6.3 All vertical and horizontal joints to be filled solid with mortar.

6.4 Thickness of a mortar bed joint shall in no case exceed 13mm.

6.5 Height of walling built in one day shall not exceed 1,5m.

6.6 Brick reinforcement (brickforce) to be minimum 3.2mm dia. galvanized hard drawn wire with a minimum yield stress resistance of 450MPa. Minimum lap length = 300mm.

6.7 Brick/lintol beams to be built with bricks having minimum crushing strength of 14MPa and 1:3 cement:sand mortar. brickforce to be built into mortar bed joints as specified on the drawing. Lintols to be built in strict accordance with the manufacturer's specifications.

6.8 Brick reinforcement (brick-force) to be built into every 3rd mortar bed joint in all load bearing walls and in every bed joint for the last 3 courses below the soffit of all slabs and below eaves at roof level in all walls. The above must be strictly adhered to unless otherwise noted.

6.9 All concrete on load bearing brickwork to be placed on 2 layers of DPC (malthoid) or as directed by the Engineer.

6.10 All load bearing walls to have a minimum thickness of 220mm.

6.11 All cavity load bearing walls to have 5 galvanized wall ties evenly spaced per square meter of wall.

STRUCTURAL STEEL
7.1 Dimensions and levels must be verified on site prior of the manufacturing of any structural steel elements and any discrepancies must be discussed with the engineer.

7.2 All internal painted steelwork to be prepared according to ISO ST3
Apply the following paint according to product specifications:
• Sigmaprime 200 Primer (1x coat 75µm)
• Sigmacover 435 (1x coat 100µm) – one shade lighter than top coat. [Colour to be from standard colour chart, specified by Architect]
• SigmaDur 550 (One coat 1x50µm) [Colour to be from standard colour chart, specified by Architect]

7.3 All structural steel elements must be inspected by the engineer prior to transporting to the site.

7.4 All hot rolled structural steel members grade S355JR and .plates 300WA.`

7.5 All welds to be with E70XX electrodes, according to AWS.

7.6 All bolts Grade 8.8, unless otherwise specified by engineer.

7.7 Galvanising
• All unpainted steel work to be hot dipped galvanized.
• All steelwork to be fabricated in accordance with SANS 14713 Part 2.
• All steelwork to be hot dip galvanized in accordance with SANS 121 or ISO 1461

7.8 Purlins to be supplied pre-galvanized.

7.9 Column protection will be provided to selected internal steel stanchions by means of 750x750mm steel lined, foam filled barriers 1500mm high painted in diagonal black and yellow.

FLOOR LEVELNESS
8.1 Levelness of floor to be 'FM 3' in terms of "Technical Report No. 34, Third Edition". Concrete to be placed and leveled by an approved flooring specialist.

8.2 Concrete slab surface to have wood float finish.

8.3 Prepare concrete surface for protective coating by grinding with diamond blade to remove concrete laitance and expose stone matrix.

8.4 Floor finish to be 4.5mm Polyurethane or similar product specified by ELIDZ, applied by specialist.

ORIGINAL SIGNED DRAWING AVAILABLE FOR INSPECTION IN OFFICE OF ORIGIN

Rev	Date	By	Description
A	2018/06/11	JD	Preliminary

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Scale	As Shown
Drawn	.
Discipline	Structural
Date of Dwg Creation	

Designed By: Name J Delport
Checked By: Name C v D

Project: Manufacturing Facility, Zone 1A ELIDZ
Title: Construction Notes & Details

Sheet	Contract No.	Drawing No.	Rev.
A1	EB/ASP2/03/18/Z1A	MZ1A-S0001	A