1. GENERAL:

1.1) THIS SET OF NOTES SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS OF THE ENGINEER. SPECIFIC NOTES AND DETAILS ON DETAILED DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES. THE ENGINEERS DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, CONSULTANTS, SPECIALIST DRAWINGS AND THE BILL OF QUANTITIES. DISCREPANCIES SHALL BE REFERRED TO THE ENGINEER PRIOR TO CONSTRUCTION.

1.2) GRIDLINES AND SITE BOUNDARIES ARE TO BE SET OUT ON SITE BY A QUALIFIED AND PROFESSIONALLY REGISTERED LAND SURVEYOR

1.3) ALL DETAILS AND DIMENSIONS SHOWN ON THE DRAWINGS ARE SUBJECT TO CONFIRMATION ON SITE AND DURING CONSTRUCTION. ALL DIMENSIONS AND LEVELS TO BE CONFIRMED ON SITE BEFORE ERECTING OF FORMWORK OR CASTING OF CONCRETE.

1.4) ALL LEVELS ON DRAWINGS REFER TO THE TOP OF THE CONCRETE, STEEL ETC. UNLESS INDICATED OTHERWISE.

1.5) COLUMNS ARE SYMMETRICAL WITH RESPECT TO GRIDLINES, UNLESS INDICATED OTHERWISE.

1.6) DIMENSIONS OF BEAMS ARE GIVEN AS WIDTH x DEPTH (DEPTH OF BEAM INCLUDES SLAB THICKNESS WHERE APPLICABLE).

1.7) DRAWINGS SHALL NOT BE SCALED, ONLY GIVEN DIMENSIONS TO BE USED.

1.8) ALL DETAILS AND DIMENSIONS PERTAINING TO ANY EXISTING STRUCTURES ARE TO BE CONFIRMED ON SITE BY THE CONTRACTOR AND THE ENGINEER IS TO BE INFORMED IMMEDIATELY OF ANY UNEXPECTED ASPECTS PERTAINING TO THEM.

1.9) ALL CONSTRUCTION METHODS AND MATERIALS USED ARE TO BE IN ACCORDANCE WITH THE REQUIREMENTS OF SANS 10400 AND SANS 01200 AND ALL OTHER APPLICABLE SANS CODES OF PRACTICE. A NON-INCLUSIVE LIST FOLLOWS:

(i)	SANS 1200 A	:	GENERAL
(ii)	SANS 1200 AA	:	SMALL WORKS
(iii)	SANS 1200 D	:	EARTHWORKS
(iv)	SANS 1200 G	:	CONCRETE (STRUCTURAL)
(v)	SANS 1200 GB	:	CONCRETE (ORDINARY BUILDINGS)
(vi)	SANS 1200 H	:	STRUCTURAL STEELWORK
(vii)	SANS 1077	:	SEALING COMPOUNDS FOR THE BUILDING & CONSTRUCTION INDUSTRY

ALL SPECIFICATIONS MENTIONED IN THE NOTES, ON THE DRAWINGS AND IN THE PROJECT SPECIFICATION, SHALL BE AVAILABLE ON SITE AT ALL TIMES.

1.10) IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT HE UNDERSTANDS AND COMPLIES WITH ALL RELEVANT ENGINEERING DRAWINGS AND SPECIFICATIONS AND IS ADEQUATELY EXPERIENCED TO UNDERTAKE ALL ASPECTS OF THE WORK SAFELY.

1.11) ALL PRODUCTS SPECIFIED FOR USE ARE TO BE USED STRICTLY ACCORDING TO MANUFACTURERS INSTRUCTIONS AND SPECIFICATIONS AT ALL TIMES.

1.12) PROVISIONS FOR PROPS UNDER SLABS AND BEAMS (TEMPORARY WORKS):
THE CONTRACTOR MUST ENSURE THAT BEAMS AND/OR SLABS HAVE SUFFICIENT STRENGTH AND/OR ARE ADEQUATELY PROPPED TO CARRY CONSTRUCTION LOADS FROM ABOVE. THIS & OTHER TEMPORARY WORKS REMAIN THE RESPONSIBILITY OF THE CONTRACTOR.

1.13) THE CONTRACTOR IS AT ALL TIMES FULLY RESPONSIBLE FOR QUALITY CONTROL ON SITE ENSURING STRICT COMPLIANCE WITH ALL DRAWINGS, DETAILS AND SPECIFICATIONS ISSUED FOR CONSTRUCTION BY THE PROFESSIONAL TEAM.

1.14) THE CONTRACTOR TO COMPLY AT ALL TIMES WITH ALL RELEVANT MUNICIPAL REGULATIONS, CONDITIONS OF APPROVAL AND BYLAWS IN THE AREA OF THE SITE AND IS TO ENSURE THAT HE HAS A SET OF APPROVED BUILDING PLANS ON SITE AT ALL TIMES.

1.15) STORAGE OF CEMENT: CEMENT SHALL NOT BE STORED FOR LONGER PERIODS THAN 6 WEEKS WITHOUT THE APPROVAL OF THE ENGINEER.

1.16) PRODUCTS DIFFERENT TO THOSE SPECIFIED MAY BE USED WITH THE ENGINEER'S PRIOR APPROVAL.

1.17) DESIGN LOADS: REFER TO DESIGN REPORT.

1.18) REFER TO CIVIL ENGINEER'S DRAWINGS FOR LAYERWORKS UNDER SURFACE BEDS / GROUND FLOOR SLAB.

1.19) ALL INSTRUCTIONS FROM THE ENGINEER SHALL BE WRITTEN IN THE SITE INSTRUCTION BOOK & SIGNED BY THE ENGINEER.

2. CONCRETE:

2.1) ALL STRUCTURAL USE OF CONCRETE TO BE IN ACCORDANCE WITH THE REQUIREMENT OF:

(i) SANS 10100 : THE STRUCTURAL USE OF CONCRETE PART 1: DESIGN
(ii) SANS 10100 : THE STRUCTURAL USE OF CONCRETE PART 2: MATERIALS AND EXECUTION OF WORK

2.2) CONCRETE GRADE :

BLINDING	- 15MPa/19mm
MASS CONCRETE	- 20MPa/19mm
STRUCTURAL CONCRETE	- 35MPa

2.3) CONCRETE MIXES NOT TO CONTAIN SLAG UNLESS THE ENGINEER HAS GIVEN WRITTEN PERMISSION.

2.4) CONCRETE CUBE TEST TO BE CARRIED OUT ON ALL POURS AS PER RELEVANT SANS 1200 REQUIREMENTS WITH SPECIFIC REFERENCE TO SAMPLING FREQUENCY.

2.5) ALL CASTING PROCEDURES, CONSTRUCTION METHODS AND POSITIONS OF CONSTRUCTION JOINTS SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF THE PROJECT.

2.6) CURING AND PROTECTION OF CONCRETE: THE CONTRACTOR MUST SUBMIT A METHOD STATEMENT FOR THE CURING, CURING PERIOD, PROTECTION AND PROPOSED STRIPPING TIMES OF THE VARIOUS CONCRETE ELEMENTS TO THE ENGINEER (FOR APPROVAL) PRIOR TO THE COMMENCEMENT OF THE PROJECT.

ACCEPTED CURING METHODS (DEPENDING ELEMENT TYPE) ARE:

(i) PONDING THE EXPOSED SURFACE WITH WATER
(ii) COVERING THE EXPOSED SURFACE WITH MOISTURE RETAINING MATERIAL, AND KEEPING IT WET
(iii) CONTINUOUSLY SPRAYING THE EXPOSED SURFACE WITH WATER
(iv) COVERING THE CONCRETE WITH WATERPROOFING OR PLASTIC SHEETING
(v) USE OF AN APPROVED CURING COMPOUND APPLIED IN ACCORDANCE TO THE MANUFATURES SPECIFICATION

ACCEPTED CURING TIMES ARE:

(i) WALLS + FLOORS - 14 DAYS

2.7) ONLY OPENINGS FOR SERVICES LARGER THAN 100mm DIA. OR 100 x 100mm ARE SHOWN ON STRUCTURAL DRAWINGS. THE CONTRACTOR MUST CONSULT DRAWINGS OF SERVICES CONSULTANTS FOR OPENINGS SMALLER THAN THE ABOVE-MENTIONED. THE CONTRACTOR SHALL ENSURE ALL SLEEVES, OPENINGS AND EMBEDDED ITEMS FOR SERVICES HAVE BEEN PLACED AND PROVIDED FOR ACCORDING TO THE THE LATEST DRAWINGS OF ALL DISCIPLINES PRIOR TO CASTING OF CONCRETE. THE CONTRACTOR MUST OBTAIN PERMISSION FROM THE ENGINEER BEFORE ANY OPENING OR SERVICE LARGER THAN 100mm DIA. OR 100 x 100mm WHICH ARE NOT INDICATED ON THE DRAWINGS, MAY BE INTRODUCED THROUGH ANY STRUCTURAL ELEMENT.

2.8) NO HOLES OR CHASE, OTHER THAN THOSE SHOWN ON THE DRAWINGS (TO BE DONE SO) OR APPROVED BY THE STRUCTURAL ENGINEER, SHALL BE CUT OR FORMED IN ANY WAY.

2.9) THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SUPPORT WORK. THIS INCLUDE THE PROPPING AND BACK PROPPING OF ALL SLABS. THE CONTRACTOR SHALL SUBMIT A METHOD STATEMENT OF HIS PROPPING AND BACK PROPPING PROCEDURES TO THE ENGINEER PRIOR TO THE START OF THE PROJECT.

2.10) SLABS SHALL NOT BE USED FOR STORAGE OF ANY MATERIAL.
2.11) REMOVAL OF FORM WORK ONLY ALLOWED AFTER48 HOURS.

3. REINFORCEMENT:

3.1) ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY THE ENGINEER BEFORE CASTING CONCRETE.

3.2) THE ENGINEER IS TO BE GIVEN A MINIMUM OF 48 HOURS NOTICE BEFORE REINFORCEMENT INSPECTIONS. THE ENGINEER SHALL ONLY INSPECT REINFORCEMENT AFTER THE CONTRACTOR SIGNED THE REINFORCEMENT OFF AS READY FOR CASTING. THIS WILL REQUIRE ALL REINFORCEMENT TO BE COMPLETELY FIXED IN POSITION, FORMWORK IS CLEAN AND SPACERS ARE IN POSITION.

3.3) BENDING SCHEDULES AND FIXING DETAILS FOR REINFORCEMENT WILL BE ISSUED IN ACCORDANCE WITH THE CONTRACTOR'S CONSTRUCTION PROGRAM AND PROGRESS ON SITE.

3.4) MINIMUM CONCRETE COVER TO REINFORCEMENT (UNLESS SPECIFIED DIFFERENTLY IN BENDING SCHEDULES OR ON DRAWINGS):

WALLS - 40mm (TOP & SIDES),

BASES - 50mm (BOTTOM & TOP & SIDES),

SLABS - 40mm (TOP , BOTTOM & SIDES)

MINIMUM COVER TO REINFORCEMENT TO BE MAINTAINED BY CONCRETE BLOCKS WITH WIRE TIES OR PVC SPACERS.

3.5) THE CONTRACTOR MUST TAKE PARTICULAR CARE TO ENSURE THAT THE SPECIFIED CONCRETE COVER TO ALL REINFORCEMENT HAS BEEN ATTAINED THROUGHOUT AND ALL REBAR IS SECURELY AND NEATLY FIXED BEFORE THE ENGINEER IS CALLED TO UNDERTAKE REBAR INSPECTIONS.

3.6) ALL CONCRETE IS TO BE MECHANICALLY VIBRATED AND COMPACTED.

3.7) AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL REINFORCEMENT AND COVER BLOCKS ARE CORRECTLY ACCURATELY FIXED, AND REMAIN IN PLACE DURING POURING.

3.8) THE ENGINEER WILL NOT BE RESPONSIBLE FOR ANY CONCRETE CAST WHERE HE WAS NOT NOTIFIED TO CARRY OUT A REINFORCEMENT INSPECTION VISIT.

3.9) NO HEAT TREATMENT, FLAME CUTTING OR CUTTING OF STEEL WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER SHALL BE ALLOWED.

3.10) BEND-OUT BARS AT CONSTRUCTION JOINTS SHALL BE BENT OUT USING A SUITABLE PIPE SO THAT NO KINK IS FORMED IN THE BAR.

3.11) WHERE NOT SPECIFIED, DOWEL BARS SHALL BE DOWELED IN A MINIMUM OF 20 x DOWEL (Ø) DIAMETER.

3.12) WHERE NOT SPECIFIED, THE FOLLOWING GROUTS MAY BE USED FOR DOWEL BARS (AS PER THE SUPPLIERS WRITTEN INSTRUCTIONS AND INSTALLATION PROCEDURES):

VERTICAL DOWELS:
- HILTI HIT-HY 150
- FISHER FIS EM
- ABE EPIDERMIX 395
- SIKADUR 31
- PRO-STRUCT 618/632

HORIZONTAL DOWELS:
- HILTI HIT-HY 150
- ABE EPIDERMIX 396
- SIKADUR 31
- PRO-STRUCT 617

VERTICAL DOWELS UPSIDE DOWN:
- SIKADUR 31
- PRO-STRUCT 617

3.13) ALL REINFORCEMENT LAPS = MINIMUM 50 x BAR (Ø) DIAMETER

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CONSULTING ENGINEER

SIGNATURE | PR No | DATE: 11/09/'24

DESIGNED	DRAWN	CHECKED
RV	RV	RV

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	11/09/'24	FOR TENDER	RV	RV

TENDER

SCALE FOR REDUCED PLAN
0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

CLIENT

WATER AND SANITATION

ETHEKWINI MUNICIPALITY

SANITATION OPERATIONS: MECHANICAL AND ELECTRICAL BRANCH

CONTRACT NO. 30661-5W

PROJECT TITLE

SOUTHERN WASTEWATER TREATMENT WORKS: ELECTRO-MECHANICAL UPGRADES

DRAWING TITLE

CONCRETE REAPIR NOTES

PROJECT MANAGER & M&E ENG.	R. Kandhai
MECHANICAL ENGINEER:	B. Coles
WORKS PROJECT MANAGER:	A. Pillay
DEPUTY HEAD: SANITATION OPS:	S. Vilane
HEAD: WATER AND SANITATION:	E. Msweli

SCALE: AS SHOWN | DATE: 11/09/2024

DRAWING NUMBER: 30661-5W/ S/PS/002 | SHEET: 01 | REV: A