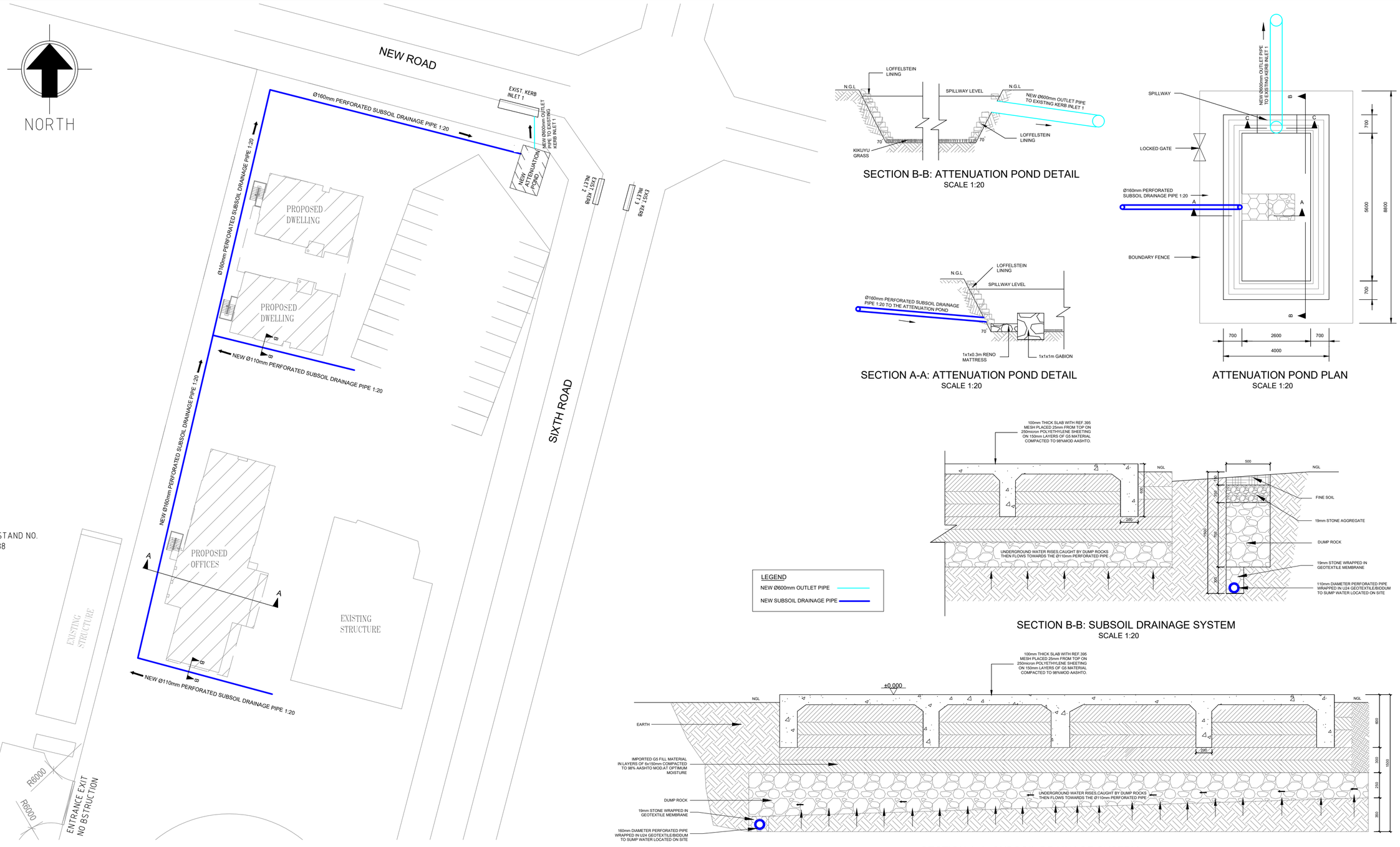

SUBSOIL DRAINAGE SYSTEM LAYOUT PLAN
SCALE 1:20

SECTION B-B: ATTENUATION POND DETAIL
SCALE 1:20

SECTION A-A: ATTENUATION POND DETAIL
SCALE 1:20

ATTENUATION POND PLAN
SCALE 1:20

SECTION B-B: SUBSOIL DRAINAGE SYSTEM
SCALE 1:20

LEGEND
NEW Ø600mm OUTLET PIPE
NEW SUBSOIL DRAINAGE PIPE

SECTION A-A: SUBSOIL DRAINAGE SYSTEM
SCALE 1:20

Engineer:
KEON CONSULTING ENGINEERS
TECHNO DESIGNS
Civil Structural & Transport Engineers
JV

TECHNO DESIGNS ENGINEERING
34 Dane Street Glen Austin Midrand
TELEPHONE (011) 045 2532
CELL (072) 301 8811
EMAIL engineer@technodesigns.co.za
OFFICES JOHANNESBURG
WEBSITE www.technodesigns.co.za

KEON CONSULTING ENGINEERS
5th Avenue Office Park, 64b 5th avenue Newton Port Elizabeth
TELEPHONE +27 41363018
WEBSITE www.keon.co.za

Client:
Johannesburg Water
JOHANNESBURG WATER
Turbine Hall,
66 Nkemi Pilso Street,
Newtown, Johannesburg

THESE NOTES SERVE AS AN ADDENDUM TO THE SPECIFICATION IN THE BILL OF QUANTITIES (BOQ). IN THOSE CASES WHERE THE BOQ SPECIFICATIONS DIFFER FROM THESE NOTES, THESE NOTES SHALL TAKE PREFERENCE
ON ORIGINAL
0 5 10 15 20 25 30 40 50MM

Engineer:		
T.Chikwata Pr Eng (20140009)		
Drawn By:	Designed By:	Checked By:
M. Mulumba	T.Mapfumo	T.Chikwata
Signature:	Signture:	Signature:
Date: October 2024	Date: October 2024	Date: October 2024

CONCRETE NOTES:

1.0 SETTING OUT AND GENERAL:
1.1 THIS DRAWING SHOULD BE READ IN CONJUNCTION WITH ARCHITECTS DRAWINGS.
1.2 ALL DIMENSIONS AND HEIGHTS ARE TO BE CHECKED ON SITE BEFORE WORK IS PUT IN HAND.
1.3 REPORT DISCREPANCIES TO ARCHITECT OR ENGINEER.
1.4 THIS DRAWING MUST NOT BE USED TO SCALE OFF. USE ONLY WRITTEN DIMENSIONS. CONTACT THE ENGINEER OR ARCHITECT WHERE CLARITY IS SOUGHT.
1.5 FOR SETTING OUT DATA, SETTING OUT POINTS AND DATUM LEVELS REFER TO SURVEY INFORMATION AND ARCHITECT'S DRAWINGS.
1.6 STRUCTURAL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THE PROJECT SPECIFICATION AND THE RELEVANT S.A.N.S SPECIFICATIONS. ALL CONCRETE WORK IS TO BE DONE IN ACCORDANCE WITH S.A.N.S 1200G AND EARTHWORKS IN ACCORDANCE WITH S.A.N.S 1200D.
1.8 CONSULT RELEVANT ARCHITECT'S, MECHANICAL, ELECTRICAL & PLUMBING DRAWINGS AND DETAILS AS RELEVANT FOR DRAINAGE, STORMWATER OUTLETS, RWDPS AND HOLES AND SLEEVES FOR THESE SERVICES. NO HOLES ARE TO BE CORED WITHOUT ENGINEERS WRITTEN APPROVAL.
2.0 FOUNDATIONS
2.1 ALL FOUNDATION EXCAVATIONS TO BE INSPECTED AND APPROVED IN WRITING BY THE ENGINEER BEFORE CONCRETE IS CAST.
2.2 NO FOUNDATIONS ARE TO BE CAST IN FILL MATERIAL.. A 50mm THICK LAYER OF 10MPa / 19mm BLINDING CONCRETE IS TO BE CAST UNDER ALL REINFORCED BASES, REINFORCED STRIP FOOTINGS AND GROUND BEAMS.
2.3 ANY OVER EXCAVATIONS ARE TO BE MADE GOOD WITH 10MPa / 19mm CONCRETE AT THE CONTRACTOR'S EXPENSE.
2.4 BACKFILLING OVER COLUMN BASES SHALL BE DONE WITH AN APPROVED MATERIAL COMPACTED IN LAYERS IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
2.5 ALLOWABLE BEARING PRESSURE UNDER:
CONCRETE BASES = 150kPa.
STRIP FOOTINGS = 100kPa.
3.0 CONCRETE
3.1 CONCRETE CHARACTERISTIC 28 DAY STRENGTH:
BASES : 25MPa / 19mm
STRIP FOOTINGS: 25MPa/ 19mm
SURFACE BEDS: 30MPa / 19mm
SUSPENDED SLABS & BEAMS: 30MPa / 19mm
COLUMNS: 30MPa / 19mm
3.2 CONCRETE MIX DESIGNS FOR ALL GRADES OF CONCRETE TO BE GIVEN TO ENGINEER FOR PERUSAL AND COMMENT. CONCRETE MIX DESIGNS FOR SURFACE BEDS TO HAVE MINIMUM BLEED CHARACTERISTICS.
3.3 ALL CONCRETE TO BE ADEQUATELY CURED BY KEEPING SURFACES CONTINUOUSLY DAMP FOR AT LEAST 5 DAYS AFTER CASTING.
3.4 ALL CONCRETE TO BE CONSTRUCTED TO THE S.A.N.S 1200G PERMISSIBLE DEVIATION DEGREE OF ACCURACY CLASS II UNLESS SPECIFIED OTHERWISE.
3.5 CONCRETE CUBE TEST RESULTS TO BE SUBMITTED TIMEOUSLY TO ENGINEER FOR PERUSAL, RECORDS, COMMENT AND APPROVAL.
4.0 REINFORCEMENT
4.1 CHARACTERISTIC STRENGTH:
MILD STEEL: 250N/mm2
HIGH YIELD STEEL: 450N/mm2
4.2 ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY ENGINEER BEFORE ANY CONCRETE IS CAST. 48 HOURS WRITTEN NOTICE TO BE GIVEN TO ENGINEER BEFORE TIME OF INSPECTION.
4.3 LAP LENGTH TO REINFORCING TO BE MINIMUM 50 x SMALLER BAR DIAMETER, UNLESS OTHERWISE NOTED.
4.4 MESH REINFORCEMENT REFERENCE 245 TO BE PLACED IN SLAB (TOP) MINIMUM LAPS = 300mm UNLESS OTHERWISE NOTED.
4.5 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 FOR INSPECTION OF THE REINFORCEMENT.
4.6 COVER TO REINFORCEMENT:
STRIP FOOTINGS: 50mm
BASES: 50mm
COLUMNS AND WALLS: 30mm
SUSPENDED SLABS: 30mm
SUSPENDED BEAMS: 30mm
4.7 CONTRACTOR IS TO CONDUCT HIS OWN INSPECTION OF REINFORCEMENT BEFORE CALLING THE ENGINEER FOR INSPECTION.
5.0 FORMWORK AND PROPPING
5.1 STRIPPING TIMES FOR:
COLUMN AND WALL SHUTTERING: 1.5 DAYS.
BEAM SHUTTERING: 7 DAYS IN HOT WEATHER.
12 DAYS IN COLD WEATHER.
FLAT SLABS: 4 DAYS IN HOT WEATHER.
7 DAYS IN COLD WEATHER.
5.2 PROPPING TIMES FOR:
SLABS AND BEAMS: 14 DAYS IN HOT WEATHER
21 DAYS IN COLD WEATHER
CANTILEVER SLABS AND BEAMS: 21 DAYS
(SUBJECT TO CUBE TEST RESULTS BEING SUBMITTED TIMEOUSLY TO ENGINEER FOR APPROVAL).
NO DE-PROPPING OF SUSPENDED ELEMENTS UNTIL INSTRUCTED BY ENGINEER.
5.3 CONCRETE FINISHES: UNLESS NOTED OTHERWISE
COLUMNS AND WALLS: OFF SHUTTER
BEAMS AND SLAB SOFFIT: OFF SHUTTER
TOP OF SUSPENDED SLABS: STEEL FLOAT
SURFACE BEDS: POWER FLOAT
5.4 SIDES OF GROUND BEAMS TO BE SHUTTERED.

Refer To Drawing No:

Key Plan:

No	Date	Details	Chd	Appd
		Revisions		

Project: JW14468- JOHANNESBURG WATER MIDRAND DEPOT

Description: SUBSOIL DRAINAGE SYSTEM PIPELINE LAYOUT,SECTIONS& DETAILS

Issued For: TENDER

Size	Scale:	Sheet No:	Original Date:
A1	As Shown	1 OF 1	October 2024

Project No:	Drawing No:	Revision:
JW14468	STRUCT-19	0