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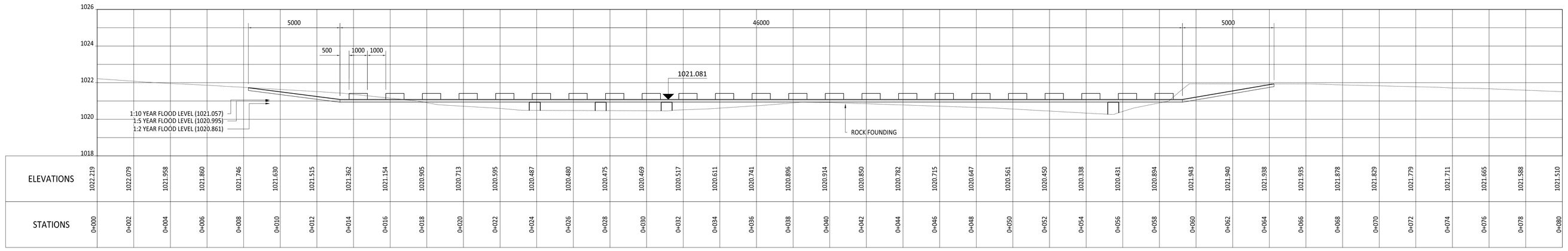
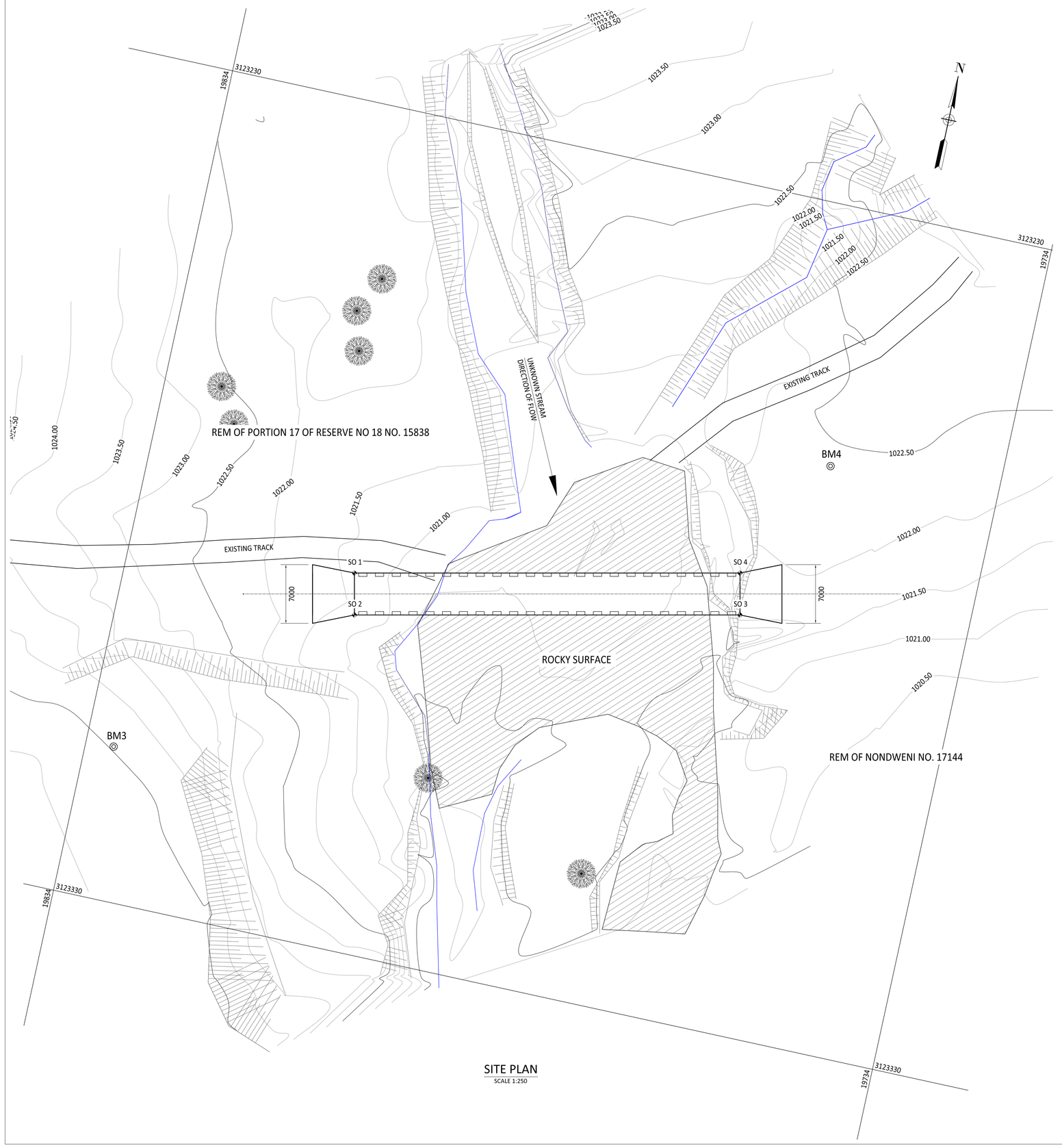
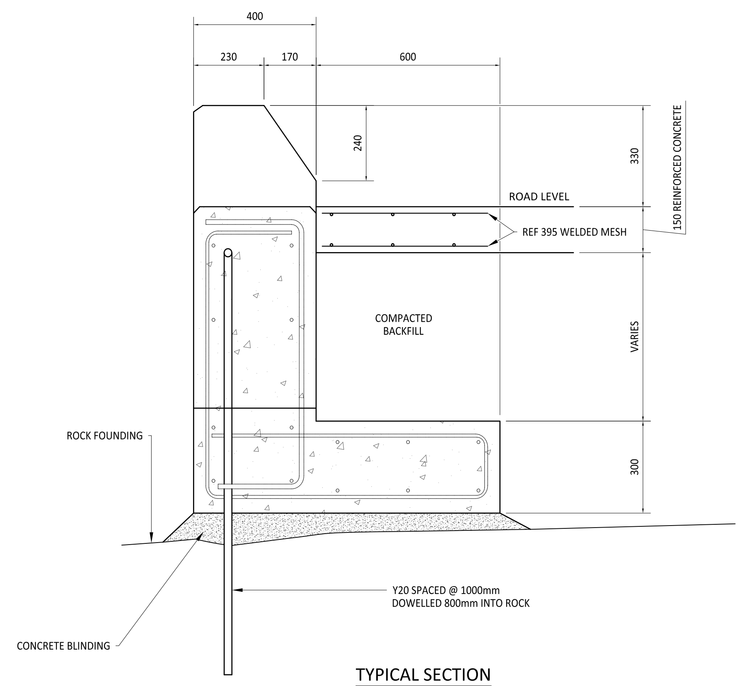


STATIONS	ELEVATIONS
0+000	1022.219
0+002	1022.079
0+004	1021.958
0+006	1021.860
0+008	1021.746
0+010	1021.630
0+012	1021.515
0+014	1021.362
0+016	1021.154
0+018	1020.905
0+020	1020.713
0+022	1020.595
0+024	1020.487
0+026	1020.480
0+028	1020.475
0+030	1020.469
0+032	1020.517
0+034	1020.611
0+036	1020.741
0+038	1020.896
0+040	1020.914
0+042	1020.850
0+044	1020.782
0+046	1020.715
0+048	1020.647
0+050	1020.561
0+052	1020.450
0+054	1020.338
0+056	1020.431
0+058	1020.894
0+060	1021.943
0+062	1021.940
0+064	1021.938
0+066	1021.935
0+068	1021.878
0+070	1021.829
0+072	1021.779
0+074	1021.711
0+076	1021.665
0+078	1021.588
0+080	1021.510

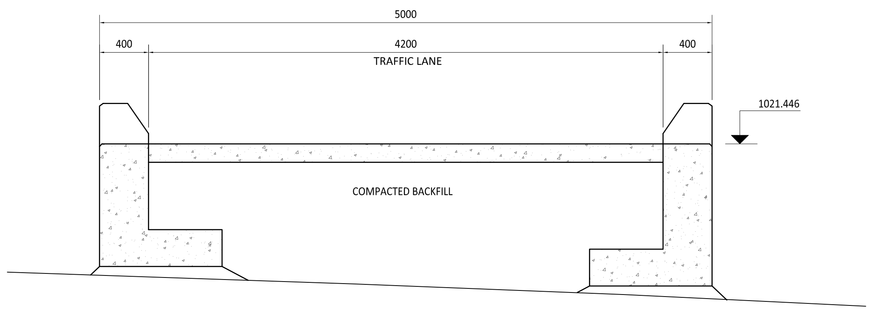
TYPICAL LONGSECTION
SCALE 1:100



SITE PLAN
SCALE 1:250



TYPICAL SECTION RETAINING WALL
SCALE 1:10



TYPICAL SECTION THROUGH CROSSING
SCALE 1:25

SURVEY COORDINATES			
SYSTEM: WG31° HEIGHTS BASED ON TRIG NO.327			
BM3	19 830.65	3 123 311.74	1025.05
BM4	19 754.25	3 123 260.80	1022.42

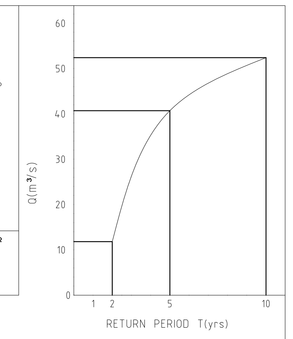
SETTING OUT COORDINATES			
SYSTEM: WG31° HEIGHTS BASED ON TRIG NO.327			
SO 1	19 807.011	3 123 285.392	1021.446
SO 2	19 805.943	3 123 290.277	1021.446
SO 3	19 761.005	3 123 280.450	1021.446
SO 4	19 762.073	3 123 275.565	1021.446

CATCHMENT SLOPE = 2.07%
SLOPE AT STRUCTURE = 1.8%

M.A.P. = 668.0mm

CATCHMENT AREA = 11.98 km²

DESIGN FLOOD RETURN PERIOD = 1 : 5 YR



T (yrs)	Q (m³/s)	% R.M.F.	HW (m)	FLOODLINE ELEVATION (m)	MAX. NATURAL STREAM VEL. (m/s)	EXIT CONDITIONS
2	21.8	5.42	0.599	1020.861	2.251	ROCKY SURFACE
5	40.7	10.13	0.733	1020.995	2.728	
10	52.4	13.04	0.795	1021.057	2.999	
R.M.F. = 10^{4} (A / 10^{4})$^{1-0.9K}$ = 401.7 m³/s						K = 5.0

NOTES:

- THIS DRAWING TO BE IN READ CONJUNCTION WITH THE DRAWINGS FROM THE OTHER PROJECT TEAM DISCIPLINES.
- ALL LEVELS AND DIMENSIONS TO BE VERIFIED ON SITE BEFORE ANY WORK COMMENCES AND ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
- ALL STRUCTURAL STEEL TO BE GALVANIZED TO SANS 121 (HEAVY DUTY).
- ALL STRUCTURAL STEEL TO BE GRADE S355JR (ACCORDING TO EN 10025-2).
- ALL BOLTS TO BE GRADE 8.8 HIGH-STRENGTH PRECISION BOLTS TO SANS 136.
- CONTRACTOR TO INFORM ENGINEER IF STEEL ELEMENTS ARE NOT AVAILABLE IN ABOVE GRADE.
- ALL LEVELS SHOWN ARE TO "TOP OF CONCRETE", UNLESS SHOWN OTHERWISE.
- ALL FOUNDATION EXCAVATIONS TO BE INSPECTED BY ENGINEER - PRIOR TO CASTING OF BLINDING LAYER AND TO BE KEPT DRY AT ALL TIMES.
- ENGINEER TO INSPECT ALL REBAR PRIOR TO CASTING ANY CONCRETE AND CONTRACTOR MUST INFORM ENGINEER AT LEAST 24 HOURS BEFORE CASTING TIME TO ARRANGE INSPECTION.
- ALL REBAR TO BE SUPPORTED ON PURPOSE-MADE CONCRETE SPACERS OR PLASTIC SPACERS.
- NO SPACERS WILL BE ACCEPTED IF ANY OTHER MATERIAL IS USED.
- STOOLS ARE TO SIT ON "B1" MAT OF STEEL AND NOT ON SHUTTERING.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING STEEL IN CORRECT POSITION DURING CONCRETING.
- CONTRACTOR TO ENSURE THAT CUBES ARE CAST WITH THE ELEMENT THEY ARE INTENDED TO REPRESENT. NO CUBE TEST RESULTS WILL BE ACCEPTED IF THEY ARE CAST AFTERWARDS OR FROM A BATCH OF CONCRETE NOT USED IN THE ELEMENT WHICH THE CUBE REPRESENTS.
- CONCRETE TO BE CURED PROPERLY USING AN APPROVED METHOD OF MOISTURE RETENTION. THE CONTRACTOR WILL BE RESPONSIBLE FOR CONCRETE WHICH IS REJECTED DUE TO POOR CURING METHODS OR LACK THEREOF.
- ALL EXPOSED RC CONCRETE SURFACES SHALL BE SMOOTH AND NON-EXPOSED SURFACES SHALL BE ROUGH (SANS 2001-CC1:2007; TABLE 1) UNLESS INDICATED DIFFERENTLY ON THE DRAWINGS OR DIRECTED BY THE ENGINEER.
- ALL EXPOSED RC CONCRETE CORNERS SHALL HAVE A 25 X 25 MM CHAMFER.
- ALL CONCRETE CONSTRUCTION IS TO BE IN ACCORDANCE WITH SANS 10100 AND SANS 2001; PART CC1 OR CC2.
- ALL STRUCTURAL STEEL CONSTRUCTION IS TO BE IN ACCORDANCE WITH SANS 10162 AND SANS 2001; PART CS1.
- ALL TIMBER CONSTRUCTION IS TO BE IN ACCORDANCE WITH SANS 10163.
- ALL LOAD BEARING BRICKWORK CONSTRUCTION IS TO BE IN ACCORDANCE WITH SANS 10164.
- ALL BUILDING WORK IS TO BE IN ACCORDANCE WITH SANS 10400 AND SANS 2001; PARTS CG1, CM1, CT1, CT2, AND EM1.
- BRICKS TO HAVE A MINIMUM CRUSHING STRENGTH OF 14 MPA AND MORTAR TO BE CLASS II (SANS 10400: THE APPLICATION OF THE NATIONAL BUILDING REGULATIONS; CH K).
- PROVIDE 2 LAYERS OF D.C.P. BETWEEN TOP OF LOAD BEARING BRICKWORK AND UNDER SIDE OF R.C. SLABS.
- GROUND BEARING PRESSURE TO BE A MINIMUM OF 100 KPA (UNLESS INDICATED DIFFERENTLY ON THE DRAWING).
- 50MM BLINDING (10 MPA) UNDER ALL FOUNDATIONS AND BASES.
- CONCRETE COVER TO BE AS INDICATED FOR EXPOSURE CONDITION SEVERE, OR 25 MM.
- CONCRETE MIX TO GIVE A MIN. CUBE CRUSHING STRENGTH FOR ALL CONCRETE - 30 MPA AT 28 DAYS (UNLESS INDICATED DIFFERENTLY ON THE DRAWING).

REVISION

REV	AMENDMENTS	INITIAL	DATE

SCALE ON REDUCED DRAWING

100 mm ON ORIGINAL DRAWING

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CONSULTING ENGINEERS

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601 Permanent Corner
102 Field Street, Durban, 4001
Box 3417, DURBAN, 4000
Tel. (031) 307-5797

SAACE

CLIENT:

NQUTHU LOCAL MUNICIPALITY

PROJECT :

MANTULI ROAD
RIVER CROSSING B

DRAWING TITLE :

GENERAL ARRANGEMENT

FILE NAME : Y:\CMP & MIG\30171 Mafikulé Road Phase 2\CAD\C3D\Mantuli Road Crliss B - Ver 2.dwg

SCALE : AS SHOWN

DATE : AUGUST 2018

SHEET : 1 OF 1

DRAWING NO.: 30171 - 200

REVISION P