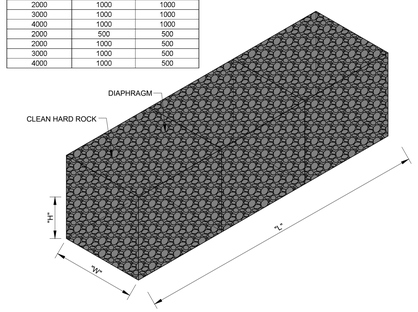
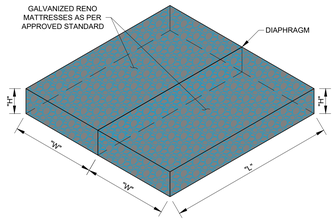
TABLE 2: STANDARD GABION BOX SIZES		
"L" LENGTH (mm)	"W" WIDTH (mm)	"H" HEIGHT (mm)
1000	1000	1000
1500	1000	1000
2000	1000	1000
3000	1000	1000
4000	1000	1000
2000	500	500
2000	1000	500
3000	1000	500
4000	1000	500

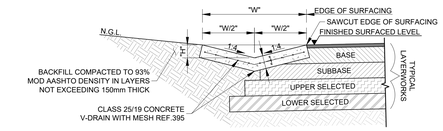


ISOMETRIC VIEW : GABION BOXES

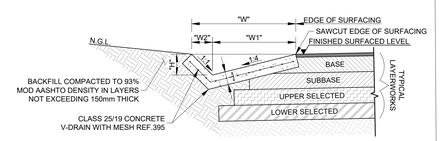
TABLE 1: STANDARD RENO MATTRESS SIZES		
"L" LENGTH (mm)	"W" WIDTH (mm)	"H" HEIGHT (mm)
2000	1000	300
3000	1000	300
6000	2000	170
6000	2000	230
6000	2000	300



ISOMETRIC VIEW : RENO MATTRESS



CONCRETE V-DRAIN: TYPE A
SCALE 1:20



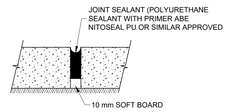
CONCRETE V-DRAIN: TYPE B
SCALE 1:20

LEGEND:

SETTING OUT NODE

NOTES:

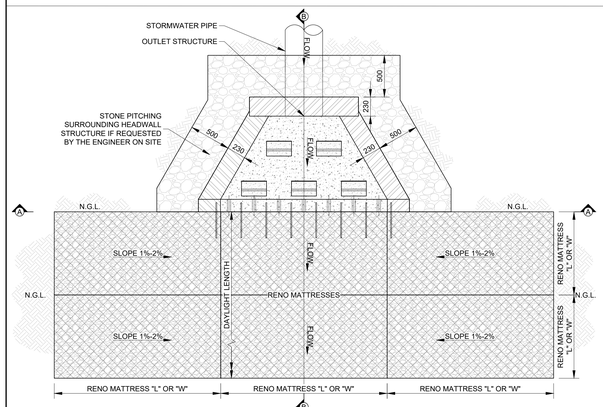
1. SIDE DRAINS TO BE CAST ALTERNATIVELY IN SECTIONS OF 2 METER LENGTH'S.
2. ALL CONCRETE TO BE CLASS 25/19 MPa UNLESS OTHERWISE SPECIFIED.
3. SURFACE FINISHES:
   - 3.1. ALL EXPOSED UNFORMED CONCRETE SHALL HAVE A CLASS 'U2' SURFACE FINISH OR AS INDICATED.
   - 3.2. ALL FORMED CONCRETE SURFACES SHALL HAVE A CLASS 'F1' SURFACE FINISH OR AS INDICATED



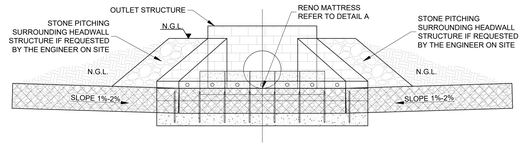
EDGE BEAM EXPANSION JOINT (EVERY 10 m)
SCALE 1:2

DIMENSIONS FOR TYPE A V-DRAIN (mm)			
"W"	"W/2"	"H"	"T"
1000	500	125	125
1200	600	150	125
1500	750	188	125
1800	900	225	150
2000	1000	250	150
2500	1250	313	150
3000	1500	375	150

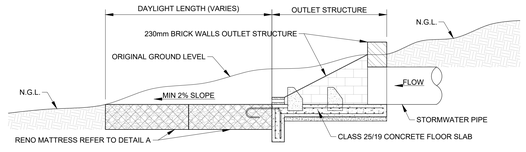
DIMENSIONS FOR TYPE B V-DRAIN (mm)				
"W"	"W1"	"W2"	"H"	"T"
1000	800	200	200	125
1200	960	240	240	125
1500	1200	300	300	125
1800	1440	360	380	150
2000	1600	400	400	150
2500	2000	500	500	150
3000	2400	600	600	150



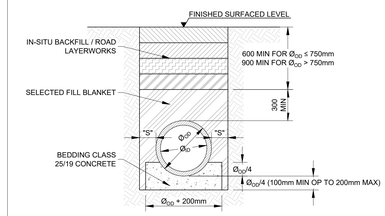
EROSION PROTECTION: PLAN VIEW
SCALE 1:25



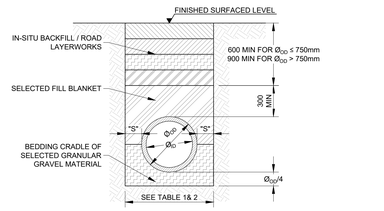
EROSION PROTECTION: SECTION A-A
SCALE 1:25



EROSION PROTECTION & DAYLIGHTING: SECTION B-B
SCALE 1:25



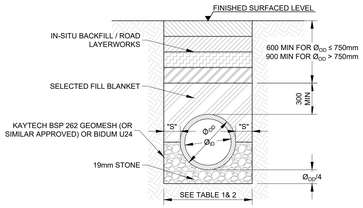
RIGID PIPE CLASS A CONCRETE BEDDING
SCALE 1:20



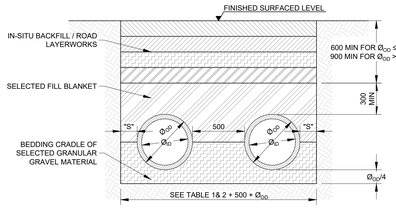
RIGID PIPE CLASS B GRANULAR GRAVEL BEDDING
SCALE 1:20

NOTES:

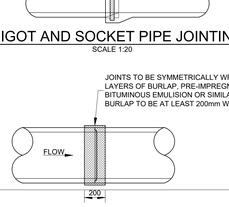
1. PIPE BEDDING IN ACCORDANCE WITH SABS 1200LB.
2. PIPE JOINTING IN ACCORDANCE WITH SABS 1200LE.
3. FOR PRECAST CONCRETE PIPE DETAILS REFER TO ROCLA PRODUCT CATALOGUE OR SIMILAR APPROVED.
4. SELECTED FILL BLANKET AND BEDDING CRADLE TO BE COMPACTED TO 90% OF MOD AASHTO DENSITY.
5. BEDDING SHALL BE OF AN APPROVED SELECTED GRAVEL MATERIAL WITH A PI NOT EXCEEDING 6.
6. THE CLASS A IN SITU CONCRETE BEDDING SHALL BE IN ACCORDANCE WITH SABS 0102.
7. ØOD = OUTSIDE DIAMETER OF PIPE
   ØID = INSIDE DIAMETER OF PIPE



RIGID PIPE CLASS B BEDDING: 19mm STONE USED AS BEDDING
SCALE 1:20



RIGID PIPE CLASS B GRANULAR GRAVEL BEDDING (DOUBLE PIPE)
SCALE 1:20



SPIGOT AND SOCKET PIPE JOINTING
SCALE 1:20

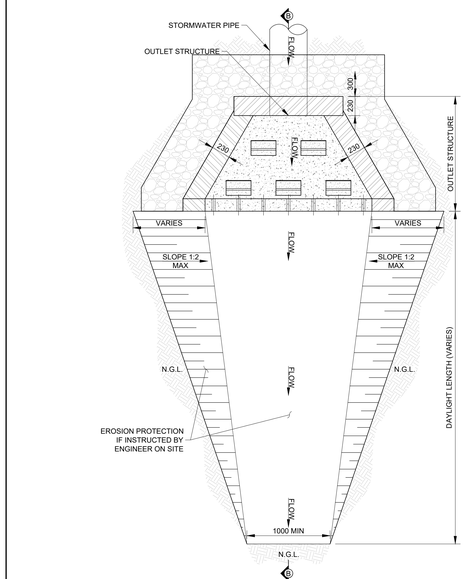
INTERLOCKING PIPE JOINTING
SCALE 1:20

EXTERNAL DIAMETER OF PIPE BERREL ("OD") mm		SIDE ALLOWANCE ON EACH SIDE ("S") mm
OVER	UP TO AND INCLUDING	
-	125	300
125	700	300
700	1000	400
1000	2000	500
2000	-	600

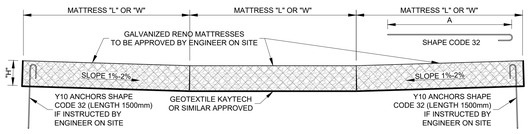
TABLE 2: SIDE ALLOWANCE FOR TRENCH EXCAVATIONS OF RIGID PIPES

Pipe Class	Nominal Diameter ("ND")	Inside Diameter ("ID")	Outside Diameter ("OD")	Wall Thickness ("T")	Nominal Length ("L")	Approximate Mass per metre	Approximate Mass per pipe	Proof Load
	mm	mm	mm	mm	m	Kg/m	Kg/pipe	kN/m
50D	300	292	362	35	1.83/2.44	93	170/226	15
	375	369	445	38	1.83/2.44	125	229/306	18.8
	450	445	533	44	1.83/2.44	174	319/426	22.5
	525	534	616	41	2.44	191	466	26.3
	600	611	699	44	2.44	234	570	30
	675	685	787	51	2.44	304	742	33.8
	750	762	870	54	2.44	357	871	37.5
	825	830	946	58	2.44	417	1019	41,3
	900	903	1029	63	2.44	493	1204	45
	1050	1034	1194	80	2.44	722	1763	52.5
	1200	1181	1359	89	2.44	916	2235	60
	1350	1328	1524	98	2.44	1133	2764	67.5
	1500	1461	1689	114	2.44	1455	3551	75
	1650	1608	1854	123	2.44	1726	4211	82.5
	1800	1755	2019	132	2.44	2019	4926	90
	1950	1898	2184	143	2.44	2366	5772	97.5
100D	150	153	197	22	1.83	31	57	15
	225	229	279	25	1.83	31	94	22.5
	300	292	362	35	1.83/2.44	93	170/226	30
	375	369	445	38	1.83/2.44	125	229/306	37.5
	450	445	533	44	1.83/2.44	174	319/426	45
	525	514	616	51	2.44	234	570	52.5
	600	584	699	57	2.44	299	729	60
	675	647	787	70	2.44	407	993	67.5
	750	718	870	76	2.44	489	1355	75
	825	788	946	79	2.44	555	1193	82.5
	900	853	1029	88	2.44	671	1638	90
	1050	986	1194	104	2.44	919	2242	105
	1200	1127	1359	116	2.44	1189	2852	120
	1350	1262	1524	131	2.44	1479	3609	135
	1500	1383	1689	153	2.44	1905	4648	150
	1650	1524	1854	165	2.44	2259	5512	165
	1800	1665	2094	177	2.44	2643	6448	180
	1950	1800	2184	192	2.44	3100	7564	195

TABLE 1: CONCRETE INTERLOCKING JOINT PIPE DATA



DAYLIGHTING: PLAN VIEW
SCALE 1:25



EROSION MATTRESS: DETAIL A
SCALE 1:25

ROCK SIZES FOR FILLING OF CAGES		
DEPTH OF CAGES (mm)	ROCK SIZE	
	MAX (mm)	MIN (mm)
200	100	125
300	100	200
500	100	250
1000	100	300

MESH SIZE AND WIRE DIAMETER FOR CAGES		
DEPTH OF GABION	MESH SIZE (mm)	WIRE DIA. (mm)
500 mm AND OVER	80 X 100	2.7
200 mm TO 300 mm	81 X 100	2.7

LEGEND:

SETTING OUT NODE

NOTES:

1. DISSIPATION BLOCKS OR BARRIER WITH 40mm PVC PIPES TO BE CONSTRUCTED ON OUTLET STRUCTURES FOR PIPE DIAMETER >750mm Ø AS INSTRUCTED BY THE ENGINEER ON SITE.
2. GABION & RENO MATTRESSES MUST BE PLACED AS INSTRUCTED BY THE ENGINEER ON SITE.
3. GABION & RENO MATTRESSES TO BE GALVANISED.

REVISIONS			
REV	BY	DATE	DESCRIPTION
0	V.N	11/2022	FOR APPROVAL

CLIENT:

CITY OF MBOMBELA
THE ULTIMATE DESTINATION

PROJECT:

MATSAFENI KAAPSCHEHOOP BUS ROUTE

TITLE:

DETAILS:
EROSION, TRENCHES AND DRAINS

LIHUZU PROJECTS(LTD) LTD
UNIT NO.45.2
CENTRAL PARK
12 SUIKERRIET STREET NELSPRUIT 1201
TEL: 013 744 6070
Email: lihuzuprojects@gmail.com

Lihuzu PROJECTS (PTY) LTD

SCALE	AS SHOWN
DATE	JUNE 2022
DESIGNED:	S.T NKABINDE
DRAWN:	V.M NKOSI
CHECKED:	L.S MTHETHWA
APPROVED:	S.T NKABINDE

DRAWING NUMBER: LIH202223/SW/001

REV: 00