sport, arts, culture & recreation
Department of
Sport, Arts, Culture and Recreation
FREE STATE PROVINCE

SMITHFIELD MULTI-PURPOSE INDOOR SPORT CENTRE

CIVIL ENGINEERING DRAWINGS

Quantum
BUILT & ENVIRONMENT CONSULTANTS (PTY) LTD

TENDER DOCUMENT

2024-02-16 Smith field Indoor sport Centre. Civil Drawings Rev8..dwg printed on 16 Feb 2024 at 16:37:46

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM

ITEM No.	DWG.No. CONSULTANT	DRAWING TITLE	DRAWING ISSUE DATES					
			ISSUE FOR APPROVAL	ISSUE "0" TENDER	ISSUE "1" CONS.	ISSUE "2" REV 1	ISSUE "3" REV 2	ISSUE "Z" A.B/R.D
		DRAWINGS FOR CIVIL WORK						
1	B34581C-000-01-01	CIVIL ENGINEERING SERVICES: DRAWING SCHEDULE	2022/04/29	2022/07/18	2024/02/16			
2	B34581C-100-01-01	CIVIL ENGINEERING SERVICES: BENCHMARK AND BOUNDARY FENCE COORDINATES	2022/04/29	2022/07/18	2024/02/16			
3	B34581C-101-01-01	CIVIL ENGINEERING SERVICES: GENERAL SERVICES	2022/04/29	2022/07/18	2024/02/16			
4	B34581C-120-01-01	CIVIL ENGINEERING SERVICES:DRIVEWAYS AND PARKING AREAS	2022/04/29	2022/07/18	2024/02/16			
5	B34581C-121-01-01	CIVIL ENGINEERING SERVICES:DRIVEWAYS '1-4' CROSS SECTIONS	2022/04/29	2022/07/18	2024/02/16			
6	B34581C-123-01-01	CIVIL ENGINEERING SERVICES: DRIVEWAYS AND PARKING AREAS DETAILS	2022/04/29	2022/07/18	2024/02/16			
7	B34581C-130-01-01	CIVIL ENGINEERING SERVICES: SITE GENERAL SEWER LAYOUT	2022/04/29	2022/07/18	2024/02/16			
8	B34581C-130-02-01	CIVIL ENGINEERING SERVICES: SITE GREY SEWER LAYOUT	2022/04/29	2022/07/18	2024/02/16			
9	B34581C-133-01-01	CIVIL ENGINEERING SERVICES: SEWER BUILDING CONNECTION DETAILS	2022/04/29	2022/07/18	2024/02/16			
10	B34581C-133-02-01	CIVIL ENGINEERING SERVICES:SEWER TRENCH DETAILS	2022/04/29	2022/07/18	2024/02/16			
11	B34581C-133-03-01	CIVIL ENGINEERING SERVICES: SEWER PIPE LAYING DETAILS	2022/04/29	2022/07/18	2024/02/16			
12	B34581C-133-04-01	CIVIL ENGINEERING SERVICES:SEWER PIPE MATERIAL SPECIFICATIONS	2022/04/29	2022/07/18	2024/02/16			
13	B34581C-140-01-01	CIVIL ENGINEERING SERVICES: CLEAR/DOMESTIC WATER LAYOUT PLAN	2022/04/29	2022/07/18	2024/02/16			
14	B34581C-143-01-01	CIVIL ENGINEERING SERVICES: WATER MATERIAL SPECIFICATIONS AND DETAILS	2022/04/29	2022/07/18	2024/02/16			
15	B34581C-143-02-01	CIVIL ENGINEERING SERVICES: WATER: DOMESTIC AND FIRE MATERIAL SPECIFICATIONS AND DETAILS	2022/04/29	2022/07/18	2024/02/16			
16	B34581C-143-04-01	CIVIL ENGINEERING SERVICES: WATER TRENCH DETAILS	2022/04/29	2022/07/18	2024/02/16			
17	B34581C-150-01-01	CIVIL ENGINEERING SERVICES: BUILDING PLATFORM LAYOUT AND SETTING OUT DETAILS	2022/04/29	2022/07/18	2024/02/16			
18	B34581C-151-01-01	CIVIL ENGINEERING SERVICES: BUILDING PLATFORM SECTION A-A & B-B	2022/04/29	2022/07/18	2024/02/16			

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
0 / : TENDER DRAWING
1,2,3..../ : AFTER TENDER
2 / : AS BUILT

IA : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY B-A
/E : BY OTHER ( )

DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/D	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/D	CONSTRUCTION DRAWINGS

OFFICES

PROVINCE	OFFICE	☎	E-MAIL
Gauteng	Pretoria	(012) 349-0500	pta@vdpr.co.za
Free State	Bloemfontein	(051) 447-2127	bfn@vdfs.co.za
Northern Cape	Welkom	(057) 353-2493	wel@vdfs.co.za
	Upington	(054) 337-5600	upt@vdnc.co.za
KwaZulu-Natal	Springbok	(027) 712-2814	spb@vdnc.co.za
	Durban	(031) 260-6392	dbn@vdkr.co.za
Eastern Cape	Empangeni	(035) 792-1780	emp@vdkr.co.za
	Port Elizabeth	(041) 373-4343	bdev@mweb.co.za
Western Cape	Cape Town	(021) 418-3935	cpt@vdwc.co.za

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FREE STATE

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES: DRAWING SCHEDULE

APPROVED BY BVI

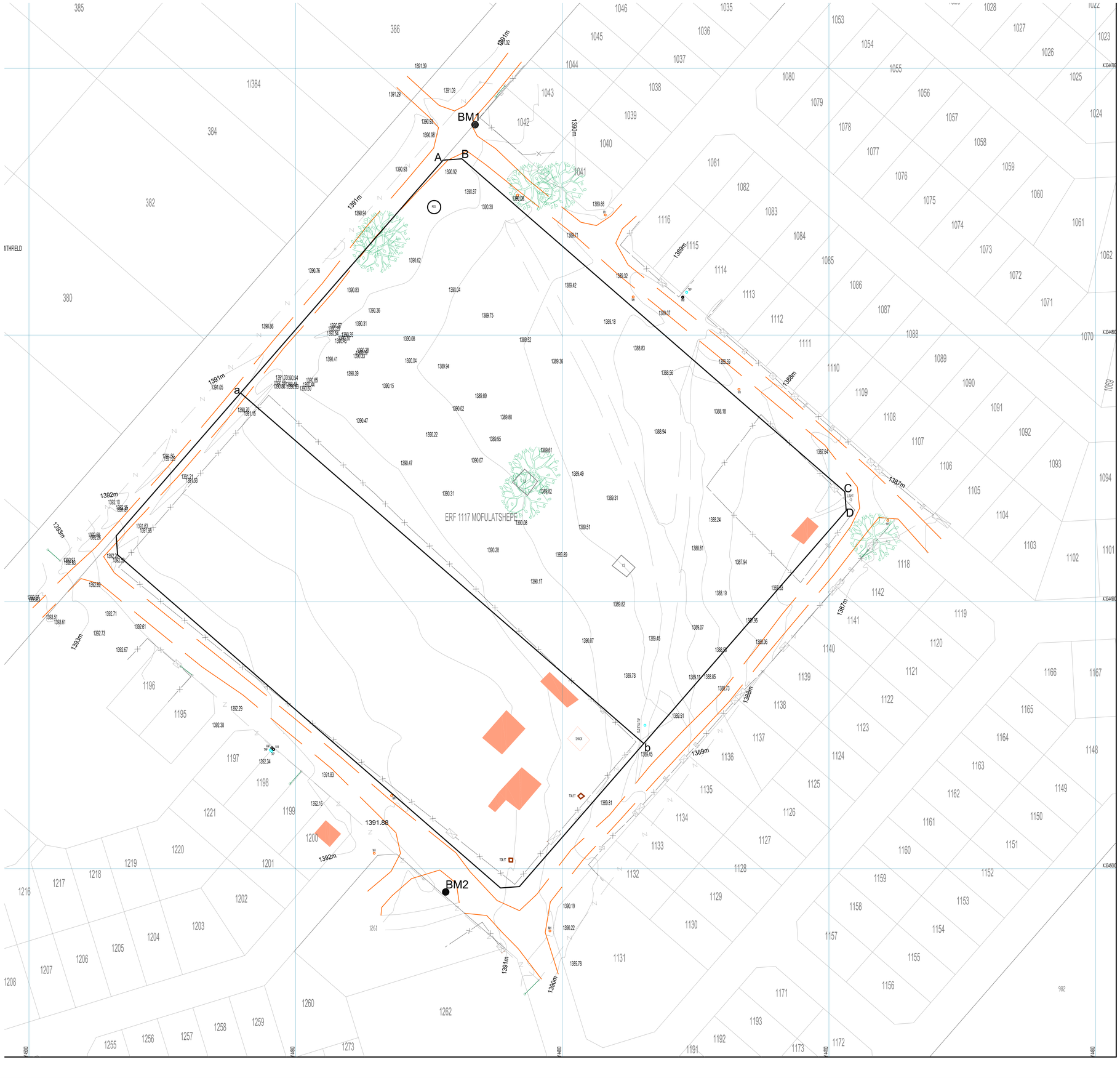
DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	NTS	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED: B34581C-000-01	1	16 Feb 2024

2024-02-16 Smith field Indoor sport Centre. Civil Drawings Rev8..dwg

N:\Bloemfontein\Projects\33338-39999 DEL\TEK\34581 Smithfield Indoor Sport Centre\DRAWINGS\CONSTRUCTION DRAWINGS\CIVIL\2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev8..dwg



BENCHMARKS (POSITION) CO-ORDINATES

Coordinate List System: Transverse Mercator WGS 84

Name	Y	X	Z	Comment
BM1	44832.639	3344721.203	1390.890	BENCHMARK 1
BM2	44843.621	3345008.822	1391.415	BENCHMARK 2

BOUNDARY PEGS CO-ORDINATES

Coordinate List System: Transverse Mercator WGS 84

Name	Y	X	Comment
BP-A	44844.695	3344734.424	BOUNDARY FENCE
BP-B	44837.635	3344733.899	BOUNDARY FENCE
BP-GATE 1	44833.240	3344737.721	BOUNDARY FENCE
BP-GATE 2	44829.323	3344741.129	BOUNDARY FENCE
BP-C	44694.036	3344858.766	BOUNDARY FENCE
BP-D	44693.503	3344865.815	BOUNDARY FENCE
BP-b	44769.456	3344953.136	BOUNDARY FENCE
BP-a	44920.624	3344821.695	BOUNDARY FENCE

TOPOGRAPHICAL SURVEY OVER SMITHFIELD INDOOR SPORT CENTRE

SITUATE IN THE MOHOKARE MUNICIPALITY
IN THE ADMINISTRATIVE DISTRICT OF SMITHFIELD
PROVINCE OF THE FREE STATE

SCALE 1 : 500

LEGEND

- ANCHOR STAYWIRE
- BOUNDARY LINE
- BUILDING
- BENCHMARK
- FENCE
- CONCRETE SLAB
- ELECTRICAL POWERLINE
- EDGE OF ROAD
- MAN-HOLE
- TRACK
- GATE
- SHACK
- RESERVOIR
- LIGHT POLE
- TAP
- TOILET
- TREE
- WATER METER

NOTES / LEGEND

NOTE:
REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFICATIONS IN RELATION TO ERF BOUNDARY FENCE.
- HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG (AS INDICATED)

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
0 / : TENDER DRAWING
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Z / : AS BUILT

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DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/D	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/D	CONSTRUCTION DRAWINGS

OFFICES

PROVINCE	OFFICE	TEL	E-MAIL
Gauteng	Pretoria	(012) 349-0000	info@bvi.co.za
Free State	Bloemfontein	(051) 447-2121	bfn@bvi.co.za
	Welkom	(057) 353-2499	welk@bvi.co.za
Northern Cape	Upington	(054) 337-8000	upt@bvi.co.za
	Springbok	(027) 712-0614	spb@bvi.co.za
KwaZulu-Natal	Durban	(031) 209-6382	dbn@bvi.co.za
	Empangeni	(035) 750-1780	emp@bvi.co.za
Eastern Cape	Port Elizabeth	(041) 379-5343	hobd@mweb.co.za
	Mthatha		
Western Cape	Cape Town	(021) 418-2005	cpt@bvi.co.za

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
BENCHMARK
AND
BOUNDARY FENCE COORDINATES

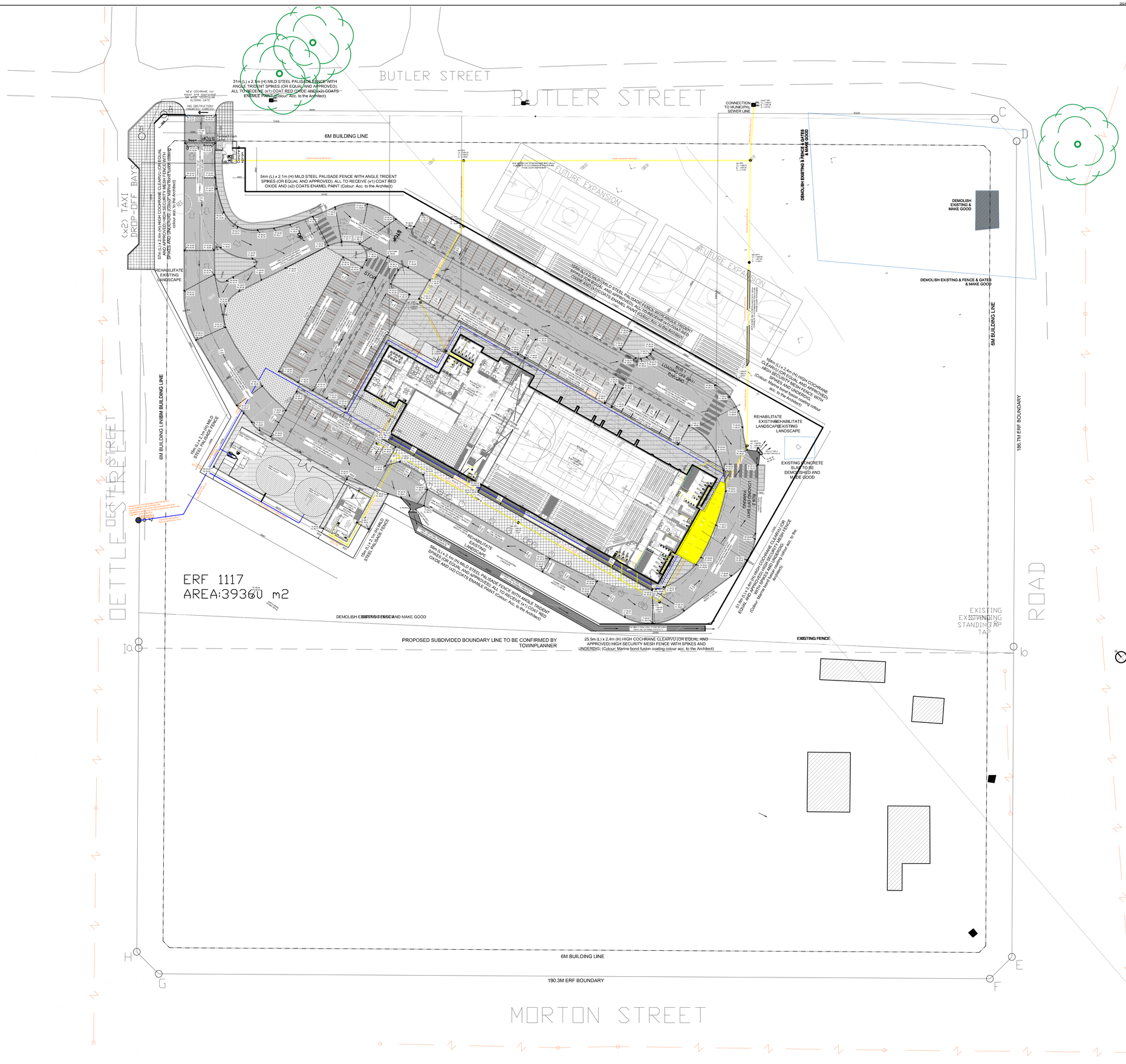
APPROVED BY BVI

DF LEUKES	200270145	2024/02/16
ENGINEER/TECHNOLOGIST	REG. NO.	DATE

SCALE	1:500	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED: B34581C-100-01	1	16 Feb 2024

2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev8.dwg



NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

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IC : BY MECHANICAL OR ELECTRICAL
ID : BY BVI
IE : BY OTHER ( )

DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/0	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/0	CONSTRUCTION DRAWINGS

OFFICES

PROVINCE	OFFICE	TEL	E-MAIL
Gauteng	Pretoria	(012) 349-9200	pta@bvi.co.za
Free State	Bloemfontein	(051) 447-2121	bfn@bvi.co.za
	Welkom	(057) 353-2499	wel@bvi.co.za
Northern Cape	Upington	(054) 3374600	upt@bvi.co.za
	Springbok	(027) 712-2414	spb@bvi.co.za
KwaZulu Natal	Durban	(031) 268-9302	dbn@bvi.co.za
	Empangeni	(035) 792-1780	emp@bvi.co.za
Eastern Cape	Port Elizabeth	(041) 372-4343	hrbo@mweb.co.za
Western Cape	Cape Town	(021) 418-0935	cpt@bvi.co.za

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
GENERAL SERVICES

APPROVED BY BVI

DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1:300	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED B34581C-101-01	1	16 Feb 2024

2024-02-15 Smith field Indoor sport Centre Civil Drawings Rev8 .dwg

31m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

NEW COCHRANE (or equal and approved) 24-HRS VEHICULAR SLIDING GATE

(NO OBSTRUCTION) (INGRESS/ EGRESS)

68381

51936

54m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

36182

57m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

REHABILITATE EXISTING LANDSCAPE

104m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

104m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

BUS 1 LOADING OFF BAY/ PARKING

BUS 2 LOADING OFF BAY/ PARKING

REHABILITATE EXISTING LANDSCAPE

EXISTING CONCRETE SLAB TO BE DEMOLISHED AND MADE GOOD

15m (L) x 2.1m (H) MILD STEEL PALISADE FENCE

15m (L) x 2.1m (H) MILD STEEL PALISADE FENCE

58m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

DEMOLISH EXISTING FENCE AND MAKE GOOD

25.5m (L) x 2,4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

EXISTING FENCE

51.8m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

NEW DRAINLINE TO BE ENCASED INTO 150mm CONCRETE TO ACCOMMODATE FOR FUTURE PHASE COURT EXPANSION

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A,B,C.../ : BEFORE TENDER
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/D : BY BVI
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DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/0	TENDER
16/02/2024	LM	1/D	CONSTRUCTION DRAWINGS
17/10/2024	LM	1/D	REVISED PARKING AREA AND DRIVEWAY LEVELS

OFFICES

PROVINCE	OFFICE		E-MAIL
Gauteng	Pretoria	(012) 3452699	pta@bvi.co.za
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	Welkom	(057) 353-2499	wel@bvi.co.za
Northern Cape	Upington	(054) 337-6600	upn@bvi.co.za
	Kuruman	(027) 712-3614	kmn@bvi.co.za
KwaZulu Natal	Durban	(031) 266-6302	dbn@bvi.co.za
	Empangeni	(035) 753-1792	emp@bvi.co.za
Eastern Cape	Port Elizabeth	(041) 373-4541	peb@bvi.co.za
	East London		
Western Cape	Cape Town	(021) 413-2935	ctn@bvi.co.za

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
DRIVEWAYS AND PARKING AREAS

APPROVED BY BVI

DF LEUKES | 200270145 | 2024/10/17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1:200	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
B34581C-120-01	2	17 Oct 2024

LAYERS USED

DRIVEWAYS & PARKING AREA PEGS (CO-ORDINATES)

==========
Coordinate List System: Transverse Mercator WGS 84
==========

Name	Y	X	Z	Comment
1	44833.983	3344737.074	1390.550	DRIVEWAYS & PARKING AREA
2	44828.702	3344741.667	1390.550	DRIVEWAYS & PARKING AREA
3	44833.034	3344746.452	1390.860	DRIVEWAYS & PARKING AREA
4	44838.236	3344741.982	1390.860	DRIVEWAYS & PARKING AREA
5	44838.153	3344752.627	1390.740	DRIVEWAYS & PARKING AREA
6	44843.485	3344748.044	1390.740	DRIVEWAYS & PARKING AREA
7	44839.535	3344754.694	1390.700	DRIVEWAYS & PARKING AREA
8	44841.814	3344759.798	1390.720	DRIVEWAYS & PARKING AREA
9	44841.561	3344764.437	1390.650	DRIVEWAYS & PARKING AREA
10	44847.650	3344765.514	1390.590	DRIVEWAYS & PARKING AREA
11	44849.204	3344765.070	1390.490	DRIVEWAYS & PARKING AREA
12	44838.582	3344768.011	1390.580	DRIVEWAYS & PARKING AREA
13	44835.459	3344770.175	1390.510	DRIVEWAYS & PARKING AREA
14	44843.739	3344772.265	1390.510	DRIVEWAYS & PARKING AREA
15	44844.524	3344773.831	1390.510	DRIVEWAYS & PARKING AREA
16	44849.850	3344772.507	1390.410	DRIVEWAYS & PARKING AREA
17	44851.519	3344772.194	1390.410	DRIVEWAYS & PARKING AREA
18	44850.920	3344775.847	1390.360	DRIVEWAYS & PARKING AREA
19	44845.382	3344777.227	1390.510	DRIVEWAYS & PARKING AREA
20	44839.442	3344778.701	1390.410	DRIVEWAYS & PARKING AREA
21	44832.164	3344771.914	1390.440	DRIVEWAYS & PARKING AREA
22	44826.964	3344773.916	1390.360	DRIVEWAYS & PARKING AREA
23	44828.630	3344781.244	1390.300	DRIVEWAYS & PARKING AREA
24	44825.844	3344782.574	1390.270	DRIVEWAYS & PARKING AREA
25	44821.682	3344775.584	1390.270	DRIVEWAYS & PARKING AREA
26	44815.618	3344779.889	1390.160	DRIVEWAYS & PARKING AREA
27	44822.960	3344785.611	1390.230	DRIVEWAYS & PARKING AREA
28	44812.919	3344786.789	1390.050	DRIVEWAYS & PARKING AREA
29	44812.432	3344789.816	1390.010	DRIVEWAYS & PARKING AREA
30	44810.824	3344790.770	1390.010	DRIVEWAYS & PARKING AREA
31	44824.237	3344789.492	1390.150	DRIVEWAYS & PARKING AREA
32	44807.487	3344789.574	1390.110	DRIVEWAYS & PARKING AREA
33	44820.197	3344795.972	1390.150	DRIVEWAYS & PARKING AREA
34	44818.084	3344796.993	1390.080	DRIVEWAYS & PARKING AREA
35	44816.148	3344802.286	1390.130	DRIVEWAYS & PARKING AREA
36	44820.847	3344803.993	1390.230	DRIVEWAYS & PARKING AREA
37	44811.971	3344828.431	1390.080	DRIVEWAYS & PARKING AREA
38	44807.270	3344826.724	1389.980	DRIVEWAYS & PARKING AREA
39	44806.657	3344828.416	1389.980	DRIVEWAYS & PARKING AREA
40	44811.354	3344830.122	1390.080	DRIVEWAYS & PARKING AREA

DRIVEWAYS & PARKING AREA PEGS (CO-ORDINATES)

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Coordinate List System: Transverse Mercator WGS 84
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Name	Y	X	Z	Comment
41	44804.187	3344849.861	1389.970	DRIVEWAYS & PARKING AREA
42	44799.487	3344848.154	1389.870	DRIVEWAYS & PARKING AREA
43	44798.876	3344849.833	1389.870	DRIVEWAYS & PARKING AREA
44	44803.576	3344851.544	1389.970	DRIVEWAYS & PARKING AREA
45	44788.691	3344841.228	1389.850	DRIVEWAYS & PARKING AREA
46	44793.392	3344842.942	1389.750	DRIVEWAYS & PARKING AREA
47	44792.049	3344846.634	1389.730	DRIVEWAYS & PARKING AREA
48	44791.241	3344847.520	1389.720	DRIVEWAYS & PARKING AREA
49	44789.993	3344848.089	1389.710	DRIVEWAYS & PARKING AREA
50	44788.823	3344848.165	1389.700	DRIVEWAYS & PARKING AREA
51	44787.831	3344847.804	1389.690	DRIVEWAYS & PARKING AREA
52	44782.225	3344863.236	1389.520	DRIVEWAYS & PARKING AREA
53	44781.528	3344867.439	1389.480	DRIVEWAYS & PARKING AREA
54	44797.602	3344867.992	1389.880	DRIVEWAYS & PARKING AREA
55	44792.897	3344866.283	1389.780	DRIVEWAYS & PARKING AREA
56	44792.109	3344874.766	1389.780	DRIVEWAYS & PARKING AREA
57	44782.149	3344871.195	1389.440	DRIVEWAYS & PARKING AREA
58	44783.819	3344874.585	1389.530	DRIVEWAYS & PARKING AREA
59	44793.584	3344879.237	1389.880	DRIVEWAYS & PARKING AREA
60	44786.096	3344878.429	1389.580	DRIVEWAYS & PARKING AREA
61	44786.406	3344879.203	1389.580	DRIVEWAYS & PARKING AREA
62	44786.753	3344883.406	1389.630	DRIVEWAYS & PARKING AREA
63	44796.322	3344883.197	1389.880	DRIVEWAYS & PARKING AREA
64	44797.430	3344894.972	1389.710	DRIVEWAYS & PARKING AREA
65	44798.332	3344895.895	1389.710	DRIVEWAYS & PARKING AREA
66	44803.059	3344887.628	1389.880	DRIVEWAYS & PARKING AREA
67	44802.893	3344898.291	1389.740	DRIVEWAYS & PARKING AREA
68	44807.886	3344898.700	1389.770	DRIVEWAYS & PARKING AREA
69	44810.446	3344891.002	1389.900	DRIVEWAYS & PARKING AREA
70	44812.400	3344891.505	1389.900	DRIVEWAYS & PARKING AREA
71	44821.324	3344897.743	1389.840	DRIVEWAYS & PARKING AREA
72	44821.329	3344890.693	1390.000	DRIVEWAYS & PARKING AREA
73	44823.662	3344889.291	1390.000	DRIVEWAYS & PARKING AREA
74	44828.661	3344895.225	1389.920	DRIVEWAYS & PARKING AREA
75	44832.547	3344889.998	1390.000	DRIVEWAYS & PARKING AREA
76	44835.908	3344881.040	1390.090	DRIVEWAYS & PARKING AREA
77	44831.996	3344879.615	1390.140	DRIVEWAYS & PARKING AREA
78	44840.114	3344869.833	1390.210	DRIVEWAYS & PARKING AREA
79	44836.851	3344868.645	1390.260	DRIVEWAYS & PARKING AREA
80	44850.780	3344840.599	1389.900	DRIVEWAYS & PARKING AREA

DRIVEWAYS & PARKING AREA PEGS (CO-ORDINATES)

==========
Coordinate List System: Transverse Mercator WGS 84
==========

Name	Y	X	Z	Comment
81	44847.861	3344838.382	1389.940	DRIVEWAYS & PARKING AREA
82	44846.367	3344835.178	1390.060	DRIVEWAYS & PARKING AREA
83	44853.593	3344835.888	1389.840	DRIVEWAYS & PARKING AREA
84	44848.456	3344829.444	1390.120	DRIVEWAYS & PARKING AREA
85	44855.195	3344833.192	1389.870	DRIVEWAYS & PARKING AREA
86	44851.636	3344827.956	1390.050	DRIVEWAYS & PARKING AREA
87	44846.951	3344826.239	1390.070	DRIVEWAYS & PARKING AREA
88	44855.850	3344801.820	1390.200	DRIVEWAYS & PARKING AREA
89	44863.943	3344836.387	1389.820	DRIVEWAYS & PARKING AREA
90	44864.987	3344833.519	1389.820	DRIVEWAYS & PARKING AREA
91	44871.671	3344829.559	1389.970	DRIVEWAYS & PARKING AREA
91.1	44881.510	3344802.531	1390.100	DRIVEWAYS & PARKING AREA
92	44860.320	3344824.593	1389.970	DRIVEWAYS & PARKING AREA
93	44867.166	3344805.758	1390.070	DRIVEWAYS & PARKING AREA
94	44868.150	3344803.083	1390.120	DRIVEWAYS & PARKING AREA
95	44860.549	3344803.530	1390.070	DRIVEWAYS & PARKING AREA
96	44868.277	3344800.444	1390.120	DRIVEWAYS & PARKING AREA
97	44868.259	3344797.706	1390.170	DRIVEWAYS & PARKING AREA
98	44861.075	3344795.767	1389.990	DRIVEWAYS & PARKING AREA
99	44868.383	3344795.299	1390.170	DRIVEWAYS & PARKING AREA
100	44865.702	3344777.910	1390.230	DRIVEWAYS & PARKING AREA
101	44858.690	3344780.070	1390.230	DRIVEWAYS & PARKING AREA
102	44855.544	3344776.402	1390.290	DRIVEWAYS & PARKING AREA
103	44852.731	3344769.288	1390.410	DRIVEWAYS & PARKING AREA
104	44860.378	3344767.603	1390.350	DRIVEWAYS & PARKING AREA
105	44854.368	3344760.634	1390.490	DRIVEWAYS & PARKING AREA
106	44826.008	3344790.148	1390.180	DRIVEWAYS & PARKING AREA
107	44827.782	3344785.466	1390.280	DRIVEWAYS & PARKING AREA
108	44855.973	3344795.727	1390.430	DRIVEWAYS & PARKING AREA
109	44854.291	3344800.406	1390.330	DRIVEWAYS & PARKING AREA
110	44851.681	3344807.511	1390.330	DRIVEWAYS & PARKING AREA
111	44850.017	3344812.147	1390.430	DRIVEWAYS & PARKING AREA
112	44821.775	3344801.868	1390.280	DRIVEWAYS & PARKING AREA
113	44823.486	3344797.170	1390.180	DRIVEWAYS & PARKING AREA

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

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/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVi
/E : BY OTHER ( )

DATE	INITIAL	No. CODE	REVISION DESCRIPTION
17/10/2024	LM	1/D	CONSTRUCTION DRAWINGS

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	Kuruman	(027) 712-2610	kum@bvinc.co.za
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	Empangeni	(035) 792-1700	emp@bvikn.co.za
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FREE STATE

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
DRIVEWAYS AND PARKING AREAS
(SURVEY COORDINATE LIST)

APPROVED BY BVi

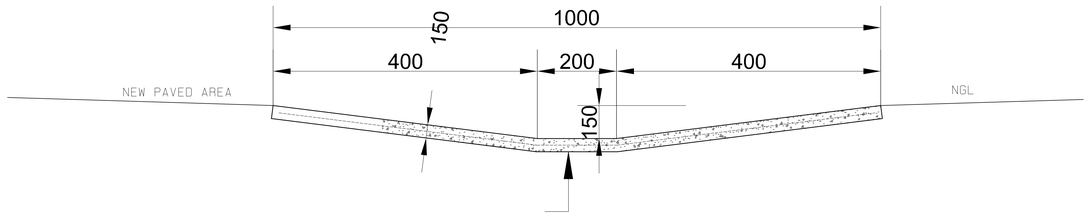
DF LEUKES | 200270145 | 2024/10/17
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1:200	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

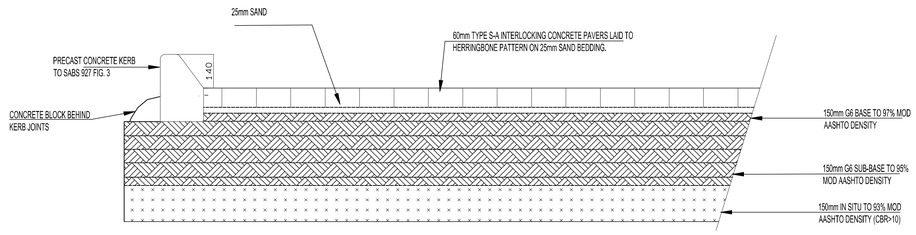
PLAN NUMBER	REVISION NO.	DATE SAVED
B34581C-121-01	0	17 Oct 2024

LAYERS USED

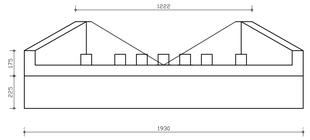
2024-10-17 Smith field Indoor sport Centre_Civil Drawings Rev8..dwg



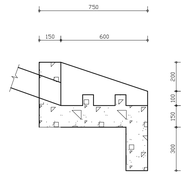
1m WIDE x 100m LONG, STONE PITCHING
>50mm Dia. ON 25Mpa CONCRETE
SCALE 1 : 25



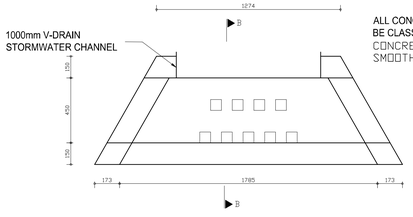
TYPICAL LAYER WORK FOR PARKING AREAS
SCALE 1 : 10



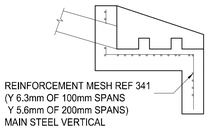
ELEVATION OF ENERGY BREAKER
SCALE 1:20



SECTION C-C : DIMENSIONS
SCALE 1:20



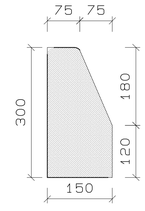
ALL CONCRET SHALL
BE CLASS 25/19
CONCRETE FINISH SHALL BE OFF SHUTTER
SMOOTH TO DEGREE OF ACCURACY "2"



PLAN OF ENERGY BREAKER
SCALE 1:20

SECTION B-B : REINFORCEMENT
SCALE 1:20

DETAILS OF ENERGY BREAKER
STORMWATER CHANNEL OUTLET STRUCTURE
AT SW- CONCRETE V DRAIN CHANNEL-1.2mx200mm DEEP



SABS FIG.3 KERB
SCALE 1 : 5

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT REG. NO. DATE

AMENDMENTS CODE

A,B,C,../ : BEFORE TENDER
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/D : BY BVi
/E : BY OTHERS ( )

DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/0	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/0	CONSTRUCTION DRAWINGS

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	Welkom	(057) 353-2499	mal@bvi.co.za
Northern Cape	Upington	(054) 337-8800	upt@bvi.co.za
	Springbok	(027) 712-3814	ksp@bvi.co.za
KwaZulu Natal	Durban	(031) 566-6387	dbn@bvi.co.za
	Empangeni	(035) 792-1790	emp@bvi.co.za
Eastern Cape	Port Elizabeth	(041) 373-4343	hele@mweb.co.za
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FREE STATE

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
DRIVEWAYS AND PARKING AREAS
DETAILS

APPROVED BY BVi

DF LEUKES 200270145 2024/02/16
ENGINEER/TECHNOLOGIST REG. NO. DATE

SCALE	AS SHOWN	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED: B34581C-123-01	1	16 Feb 2024

2024-02-16 Smith field indoor sport Centre_Civil Drawings Rev8..dwg

31m (L) x 2,1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

NEW COCHRANE (or equal and approved) SM-VIDE VEHICULAR SLIDING GATE

(NO OBSTRUCTION) (INGRESS / EGRESS)

57m (L) x 2,4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

54m (L) x 2,1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

104m (L) x 2,1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

104m (L) x 2,4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

REHABILITATE EXISTING LANDSCAPE

REHABILITATE EXISTING LANDSCAPE

REHABILITATE EXISTING LANDSCAPE

EXISTING CONCRETE SLAB TO BE DEMOLISHED AND MADE GOOD

BUS 1 LOADING OFF BAY/ PARKING

BUS 2 LOADING OFF BAY/ PARKING

15m (L) x 2,1m (H) MILD STEEL PALISADE FENCE

15m (L) x 2,1m (H) MILD STEEL PALISADE FENCE

58m (L) x 2,1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED); ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

51,6m (L) x 2,4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

DEMOLISH EXISTING FENCE AND MAKE GOOD

EXISTING FENCE

25,5m (L) x 2,4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

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1,2,3.../ : AFTER TENDER
Z / : AS BUILT

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/C : BY MECHANICAL OR ELECTRICAL
/D : BY BVI
/E : BY OTHER ( )

DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/D	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/D	CONSTRUCTION DRAWINGS

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	Welkom	(057) 353-2496	wel@bvi.co.za
Northern Cape	Upington	(054) 337-6803	upt@bvi.co.za
	Springbok	(027) 712-3614	spb@bvi.co.za
KwaZulu Natal	Durban	(031) 266-8362	dbn@bvi.co.za
	Empangeni	(035) 793-1780	emp@bvi.co.za
Eastern Cape	Port Elizabeth	(041) 373-4243	info@bvi.co.za
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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
SITE GENERAL SEWER LAYOUT

APPROVED BY BVI

DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1:200	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED: B34581C-130-01	1	16 Feb 2024

2024-02-16 Smith field Indoor sport Centre, Civil Drawings RevB..dwg

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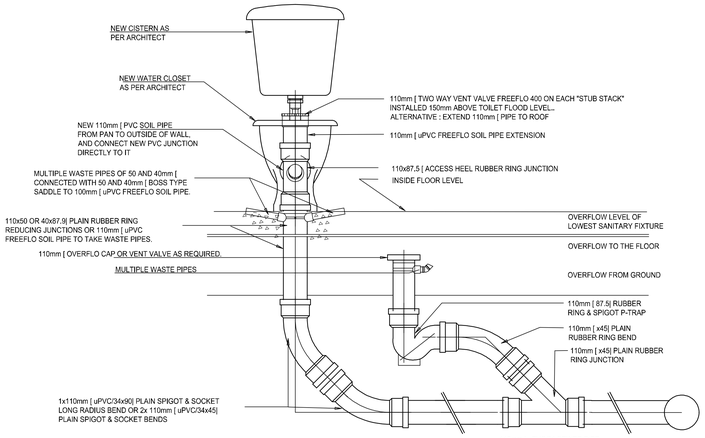
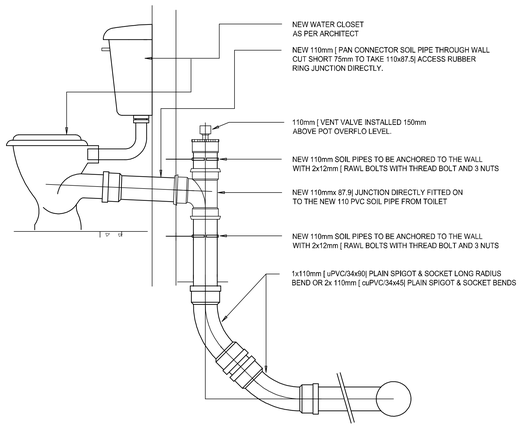
2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev0.dwg printed on 16 Feb 2024 at 16:49:46



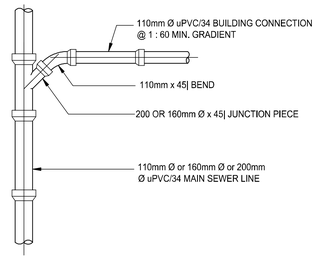
STUB STACK DETAIL FOR SOIL AND WASTE PIPES

SCALE 1:10

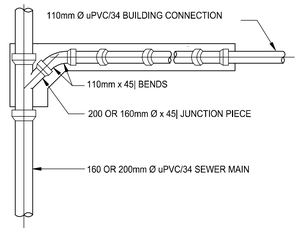


SECTION THROUGH TOILET & STUB STACK

SCALE 1:20



PLAN



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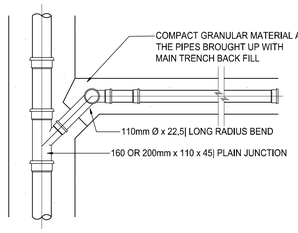
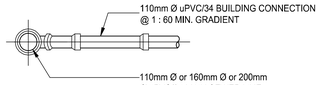


PLAN

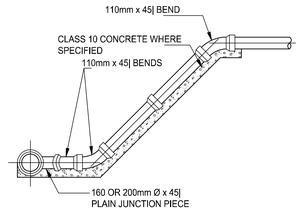
NOTE:

FALL IN 110mm Ø uPVC/34 BUILDING CONNECTION TO MAIN SEWER LINE NOT TO EXCEED 1 : 10



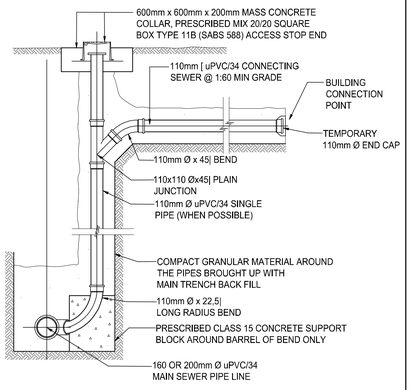
SIDE - ELEVATION

HORIZONTAL- TYPE BC 1



SIDE - ELEVATION

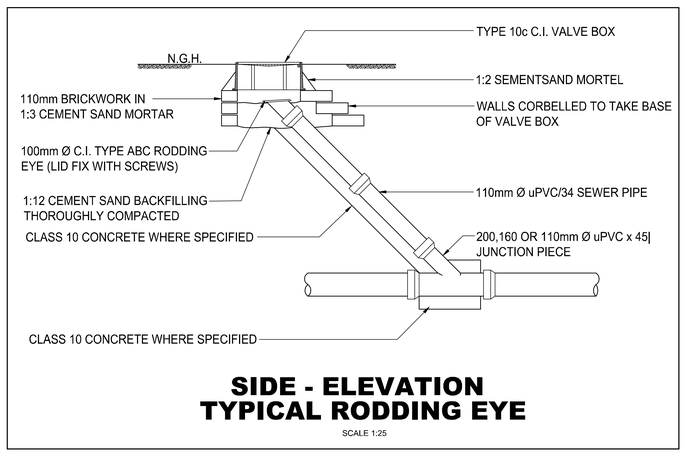
RAMP- TYPE BC 2



SIDE - ELEVATION
DROP- BC-3

TYPICAL BUILDING CONNECTIONS

SCALE 1:25



SIDE - ELEVATION
TYPICAL RODDING EYE

SCALE 1:25

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT — REG. NO. — DATE

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Civil, Structural & Electrical Engineers, Environmental & Project Management
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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
SEWER BUILDING
CONNECTION DETAILS

APPROVED BY BVI

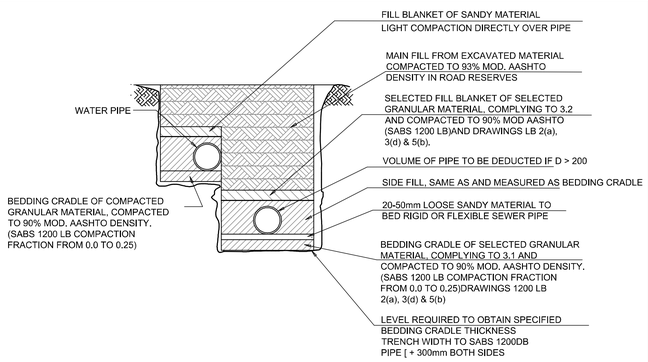
DF LEUKES — 200270145 — 2024/02/16
ENGINEER/TECHNOLOGIST — REG. NO. — DATE

SCALE	AS SHOWN	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

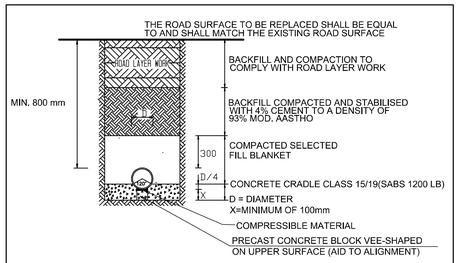
PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED: B34581C-133-01	1	16 Feb 2024

2024-02-16 Smith field Indoor sport Centre_ Civil Drawings Rev0.dwg

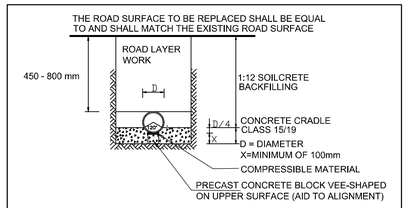
N:\Bloemfontein\Projects\33335-33999 DEL\TEK\34581 Smithfield Indoor Sport Centre\DRAWINGS\CIVIL\2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev0.dwg



MEASUREMENT OF BEDDING FOR COMBINED TRENCH



ROAD CROSSING : COVER > 800



ROAD CROSSING:
COVER >450mm <800mm

DETAILS OF TRENCH EXCAVATIONS
DEEPER THAN 2,0m

NOTES:

1 MINIMUM COVER ON SEWER PIPES SHALL BE:
1.1 UNDER WALKWAYS = 800
1.2 UNDER PERMANENT SURFACED ROADWAYS = 1000
1.3 UNDER GRAVEL SURFACED ROADWAYS = 1150

2 TRENCH EXCAVATIONS WILL NOMINALLY BE UP TO 2,0m DEEP.

3 PIPE BEDDING AND BLANKET MATERIAL SHALL CONFORM TO SABS 1200 LB.

3.1 SELECTED GRANULAR MATERIAL FOR BEDDING CRADLE AND SIDE FILL
a) GRADING 0,6 - 19mm
b) NON CORROSIVE , FREE DRAINING
c) COMPACTABILITY FACTOR MAX. 0,25
d) PI MAX. 6

3.2 SELECTED FILL MATERIAL FOR SELECTED FILL BLANKET
a) MAXIMUM PARTICLE SIZE 30mm
b) PI MAX. 6

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

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CITY ENGINEER / CLIENT REG. NO. DATE

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28/03/2020	LM	A/0	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/0	CONSTRUCTION DRAWINGS

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CIVIL ENGINEERING SERVICES:
SEWER TRENCH DETAILS

APPROVED BY BVI

DF LEUKES 200270145 2024/02/16
ENGINEER/TECHNOLOGIST REG. NO. DATE

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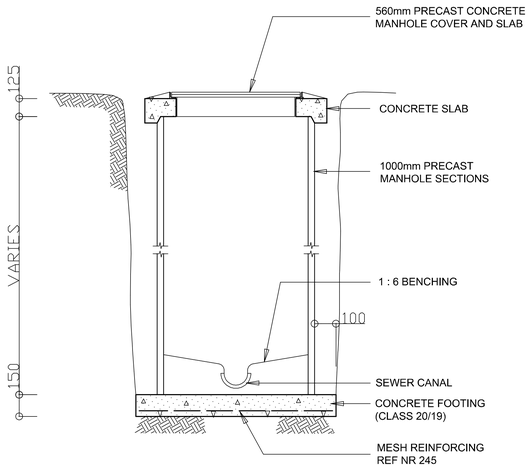
B34581C-133-02	1	16 Feb 2024

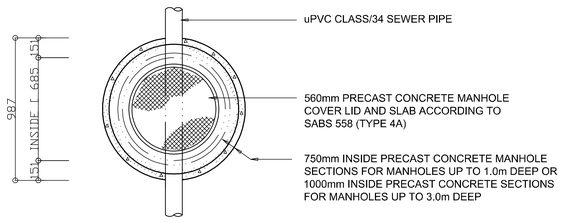
LAYERS USED

2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev0.dwg

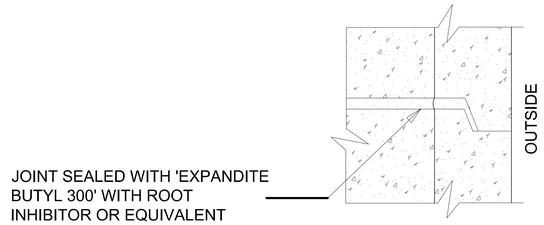


TYPICAL SECTION TYPICAL PRECAST CONCRETE MANHOLE TYPE A

SCALE 1:20



PLAN



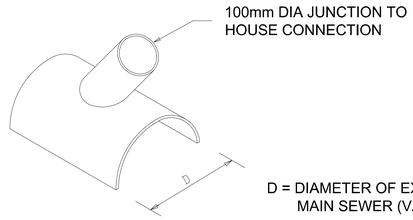
DETAIL OF MANHOLE PRECAST RING JOINT

NTS

FIXING DETAILS FOR SADDLES :

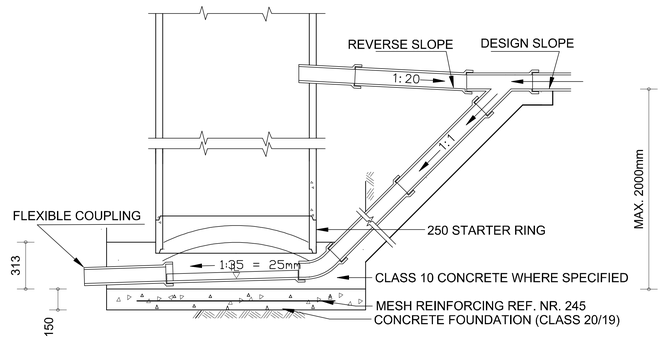
A) CUT 100mm DIA HOLE THROUGH EXISTING PIPE. SPECIAL CARE MUST BE TAKEN TO PREVENT DEBRIS FROM FALLING INTO THE EXISTING PIPE

B) FIX SADDLE TO EXISTING PIPE WITH PROSTRUCT 617 EPOXY, OR OTHER SIMILAR APPROVED + STRAPPING



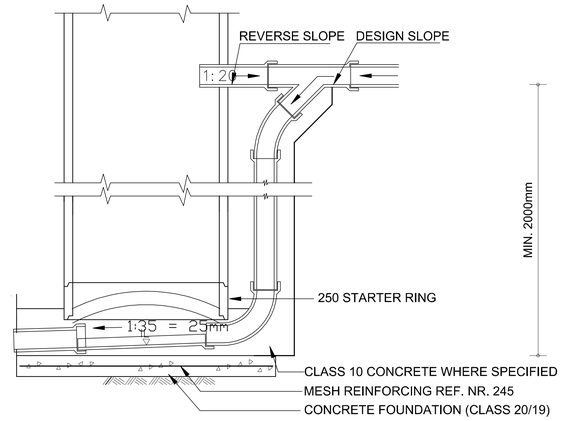
FIXING DETAILS OF SADDLE ON EXISTING MAIN SEWER

NTS



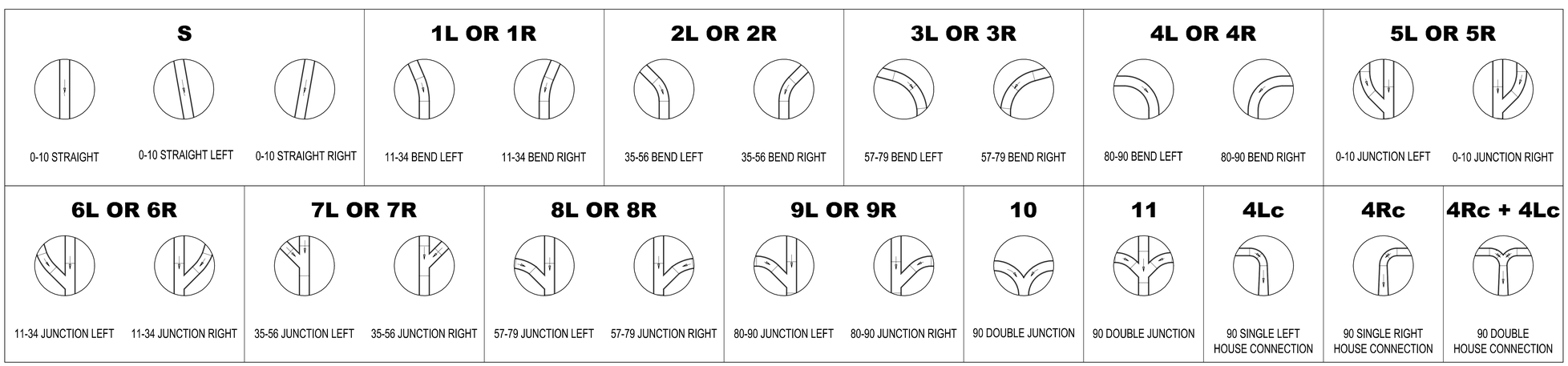
TYPICAL RAMP INLET AT PRECAST AND BRICKWORK MANHOLES

SCALE 1:20



TYPICAL DROP INLET AT PRECAST AND BRICKWORK MANHOLES

SCALE 1:20



SEWER MANHOLE TYPES - LOOKING UPSTREAM

SCALE: N.T.S.

NOTES / LEGEND

CONSTRUCTION DRAWING

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SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
SEWER PIPE LAYING DETAILS

APPROVED BY BVI

DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	N MAKENA
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2024-02-16 Smith field Indoor sport Centre Civil Drawings Rev8..dwg

2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev8.dwg printed on 16 Feb 2024 at 16:55:05

NOTES / LEGEND

NOTE ON UNDERGROUND SEWER PIPE INSTALLATION:

ALL PIPES AND FITTINGS FOR UNDERGROUND SEWERAGE NETWORK SHALL COMPLY WITH THE FOLLOWING:

1. SANS 791 1986: CLASS 34, HEAVY DUTY, SOLID WALL. COLOUR KALAHARI SAND.
   FLEXIBLE uPVC PIPES TO BE IN LENGTHS OF 6m MAXIMUM AND EACH PIPE FITTED WITH INTEGRAL RUBBER RING CUFF JOINT ON ONE END.
   CHANNELS, CHANNEL BENDS AND CHANNEL JUNCTIONS SHALL BE INJECTION MOULDED WITH ANCHORS TO GRIP IN CONCRETE BENCHING SUITABLE FOR USE WITH ABOVE PIPES.
2. SANS 1601 1994: STRUCTURED WALL, TYPE 1, SANDWITCH WALL, CLASS 400:
   FLEXIBLE uPVC PIPES TO BE IN LENGTHS OF 6m MAXIMUM AND EACH PIPE FITTED WITH INTEGRAL RUBBER RING CUFF JOINT ON ONE END.
   CHANNELS, CHANNEL BENDS AND CHANNEL JUNCTIONS SHALL BE INJECTION MOULDED FREEFLO TO SANS 967: 1986 WITH ANCHORS TO GRIP IN CONCRETE BENCHING.
3. FLEXIBLE JOINTS TO SABS 1601: 1994 AMENDED:
   ALL NON STANDARD PIPE SECTIONS OR PLAIN ENDS TO BE JOINED WITH DOUBLE OR KIMBERLEY/REPAIR COUPLINGS.
4. ALL SEWER PIPES UNDER BUILDING FLOOR SLAB SHALL BE ENCASED IN 500mmx500mm CLASS 20/19 CONCRETE.
5. FIELD TESTS:
   a) AIR TESTS ACCORDING TO CLAUSE 7.2 OF SANS 1200 LD MUST BE CARRIED OUT BETWEEN MANHOLES DURING THE FOLLOWING PHASES OF CONSTRUCTION:
   i) AFTER THE PIPES HAVE BEEN LAID.
   ii) AFTER THE INNITIAL BACKFILLING HAS BEEN COMPLETED.
   b) THE AIR TEST IS ONLY AN INDICATION OF ACCEPTANCE OF A COMPLETED PORTION OF THE LINE AND IN ANY DISPUTE ARISING THE OUTCOME OF A WATER TEST WILL BE BINDING.
   c) THE MANDATORY WATER TEST SHALL BE APPLIED TO THE PIPELINE AS WELL AS THE MANHOLES
6. TRENCHES:
   a) EXCAVATION AND BACKFILLING OF TRENCHES TO COMPLY WITH SANS 1200 DB WITH 1:10 SOILCRETE BACKFILLING WHERE PIPES GO UNDER OR THROUGH STRIP FOUNDATIONS OR COLUMN FOOTINGS.
   b) BEDDING OF PIPES TO COMPLY WITH SANS 1200 LB FOR FLEXIBLE PIPES.
   c) TRENCHES DEEPER THAN 2.0m TO BE EXCAVATED IN V-SHAPE FOR TOP 1.5m AS SAFETY PRECAUSION ACCORDING THE HEALTH AND SAFETY PLAN, ONLY ON INSTRUCTION OF THE ENGINEER AS DETERMINED ON SITE AND BY THE INSITU MATERIAL.
   d) SEWERS TO BE PROTECTED AT ROAD CROSSINGS AS SHOWN ON THE TYPICAL PLAN FOR PIPE BEDDINGS.
   e) TRENCHES TO BE PROTECTED FROM STROMWATER INFLOW.
7. MANHOLES AND FITTINGS:
   a) ALL CONCRETE, BENCHING AND SEALERS SHALL COMPLY WITH SANS 1200 GA OR SANS 1200 LD AS APPLICABLE.
   b) PRECAST CONCRETE SECTIONS, COVER SLABS AND LIDS TO COMPLY WITH SANS 1294. IN COVERED WALKWAYS MANHOLE LIDS AND FRAMES SHALL BE CAST IRON DOUBLE SEAL UNITS.
   c) CLASSES OF CONCRETE:
   i) PRECAST CONCRETE SECTIONS - 30/19.
   ii) BEDDING CRADDLE - 15/19.
   iii)ALL OTHER CONCRETE - 25/19.
   d) ONLY DOLEMITIC AGGREGATE SHALL BE USED IN CONCRETE
   e) CHANNELS IN THE MANHOLES TO BE LAID IN THE WET CONCRETE FLOOR AND THE FIRST OR STARTER PRECAST SECTION OF 250mm BE PLACED AND THE BENCHING COMPLETED WITHIN 24 HOURS AFTER CASTING THE CONCRETE FLOOR. NO DRIERS WILL BE PERMITTED.
   f) NO STEP IRONS SHALL BE INSTALLED IN MANHOLES.
8. CLEANING:
   THE MANHOLE IN TOTAL, BUT THE CHANNELS IN PARTICULAR MUST BE RUBBED AND CLEANED OUT PROPERLY TO A SMOOTH FINISH BEFORE THE MANHOLE WILL BE INSPECTED FOR APPROVAL.

NOTE ON ABOVE GROUND SOIL AND WASTE PIPE INSTALLATION:

ALL ABOVE GROUND SANITATION PLUMBING SHALL COMPLY WITH THE FOLLOWING:

1 EXPOSED AREA INSTALLATIONS:
1.1 SOIL VENT AND WASTE PIPES AND FITTINGS SHALL BE uPVC FREEFLOW SYSTEM TO (SANS 967-1987) COLOUR WHITE
1.2 JOINTING METHOD:
a) RUBBER RING FOR 110 AND 160mm PIPES
b) SOLVENT WELD FOR 32, 40 AND 50mm PIPES
c) SPIGOT AND SOCKET FOR 75mm AND CERTAIN 110mm PIPES
d) SADDLESS SHALL NOT BE USED FOR JOINTING WASTE PIPES TO SOIL PIPES, ONLY MANUFACTURED JUNCTIONS SHALL BE USED.

1.2 PIPE HANGERS FOR HORIZONTAL FIXING SHALL BE GALVANIZED HOLDERBAT OR HANGER FOR GRIP AND ANTI-SWAY SUPPORT WITH 2xHANGERS.

1.3 GALVANISED BAND HANGER FOR HORIZONTAL SUPPORT WITH SINGLE HANGER.

1.4 STAINLESS STEEL HOLDERBAT OR HANGER FOR VERTICAL OR HORIZONTAL AND SUPPORT FIXING FOR FITTINGS.

1.5 ALL VERTICAL STAG PIPES SHALL BE FITTED WITH A 50mm Ø VENT VALVE TO SANS 1532

LEGEND FOR SANITATION INSTALLATION:

SS = "STUB STACK" OR GULLEYLESS OR CLOSED SYSTEM WITH OVERFLOW CAP AND WASTE CONNECTION IN uPVC PIPE

VSS = "VENTILATED STUB STACK" IS STUB STACK IN uPVC PIPE FITTED WITH 50mm Ø 1 WAY VENT VALVE TO SANS 1532

VP = "VENT PIPE" IN uPVC FITTED TO WALL IN SERVICES DUCTS WITH 110mm Ø TWO WAY VENT/VACUUM VALVE.

FD = "FLOOR DRAIN" TO ARCHITRCT'S SPECIFICATIONS OR "GULLY MAN" STAINLESS STEEL SHOWER TRAPS.

P-TRAP = ORDINARY P-TRAP LIKE "COBRA 373SQ" ROUGH BRAS, WITH SHALLOWSEAL, CHROME PLATED SQUARE GRATING AND 32mm DIAM FEMALE OUTLET.

ANTI-VAC = 32,40 OR 50mm Ø BOTTLE TRAP WITH ANTI-VACUUM VALVE INSTALLED AT WASH HAND BASENS, SINKS OR TROUGTHS.

SP = "SOIL PIPE" IN uPVC PIPE CARRYING SOILED WATER

WP = "WASTE PIPE" IN uPVC PIPE CARRYING GREY WATER

MH G 3.5 = MANHOLE NUMBER
GL = GROUND LEVEL OR PAVING LEVEL
CL = MANHOLE COVER LEVEL NORMALLY LEVEL WITH PAVING OR 150mm ABOVE GL
IL = INVERT LEVEL OF PIPE IN MANHOLE
D = DEPTH OF MANHOLE IL TO CL

P14x10mx200mmØxuPVC/34x1.6667%xR/C 10/34l/s
= PIPE NUMBER
= PIPE LENGTH
= PIPE DIAMETER
= PIPE MATERIAL AND CLASS
=SLOPE IN PERCENTAGE
=RUNOFF/ CAPACITY IN LITERS PER SECOND.

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

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NUMBER	REVISION	DRAWING DESCRIPTION

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CIVIL ENGINEERING SERVICES:
SEWER PIPE
MATERIAL SPECIFICATIONS

APPROVED BY BVI

DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	AS SHOWN	DRAWN	N MAKENA
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PLAN NUMBER	REVISION NO.	DATE SAVED
B34581C-133-04	1	16 Feb 2024

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31m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED): ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

NEW COCHRANE (or equal and approved) 3M WIDE VEHICULAR SLIDING GATE

(NO OBSTRUCTION) (INGRESS/ EGRESS)

57m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

54m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED): ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

104m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED): ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMEL PAINT (Colour: Acc. to the Architect)

NEW BOUNDARY LINE TO BE ENCRIBED INTO 150mm CONCRETE TO ACCOMMODATE FOR FUTURE PHASE COURT EXPANSION

104m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

REHABILITATE EXISTING LANDSCAPE

REHABILITATE EXISTING LANDSCAPE

REHABILITATE EXISTING LANDSCAPE

EXISTING CONCRETE SLAB TO BE DEMOLISHED AND MADE GOOD

BUS 1 LOADING OFF BAY/ PARKING

BUS 2 LOADING OFF BAY/ PARKING

15m (L) x 2.1m (H) MILD STEEL PALISADE FENCE

15m (L) x 2.1m (H) MILD STEEL PALISADE FENCE

58m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED): ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)

DEMOLISH EXISTING FENCE AND MAKE GOOD

25.5m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

51.8m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG; (Colour: Marine bond fusion coating colour acc. to the Architect)

EXISTING FENCE

APPLICATION FOR NEW 80mm WATER METER TO BE MADE BY THE CONTRACTOR. TO BE CONNECTED TO LOCAL EXISTING PIPE FOR CONFIRMATION APPROVAL BY THE MUNICIPALITY INSTALLING THE NEW WATER METER)

CLEAN WATER SUPPLY 75mm Ø WHICH IS (+/-6m)

STOP

NOTES / LEGEND

CONSTRUCTION DRAWING

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28/03/2023	LM	A/0	DETAILED DESIGN DRAWINGS
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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
CLEAR/DOMESTIC
LAYOUT PLAN

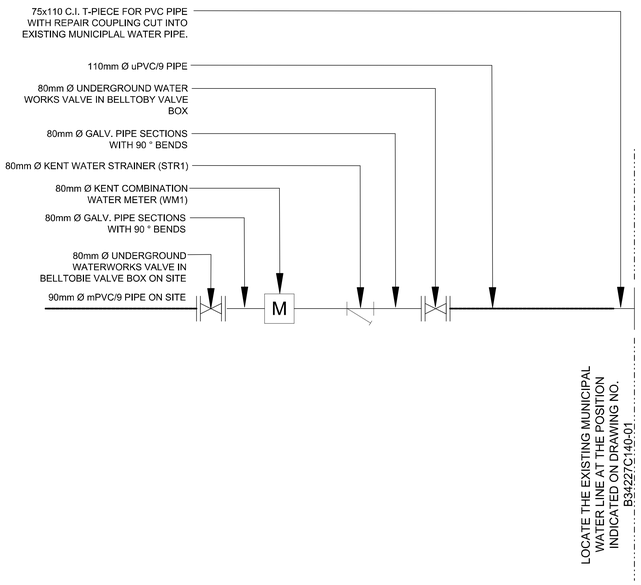
APPROVED BY BVI

DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

SCALE	1:200	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
LAYERS USED B34581C-140-01	1	16 Feb 2024

2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev0.dwg



DETAIL "A"

SCALE 1:25

NOTE: NEW MUNICIPAL WATER CONNECTION FOR DOMESTIC AND FIRE WATERSUPPLY BY MMM:

LOCATE EXISTING MUNICIPAL DOMESTIC WATER SUPPLY AS INDICATED ON DRAWING NO. B34227C-140-01.

A NEW DOMESTIC WATER CONNECTION SHALL BE CONSTRUCTED AS FOLLOWS:

1. CUT INTO THE EXISTING MUNICIPAL WATER SUPPLY PIPE .
2. INSTALL 90mm Ø UPVC CLASS 9 UP TO BOUNDARY (MMM).
3. INSTALL 80mm Ø UNDERGROUND WATERWORKS VALVE IN BELLTOBY BOX (MMM).
4. INSTALL 80mm Ø KENT STRAINER + KENT COMBINATION WATER METER WITH STEEL PIPEWORK ABOVE GROUND AS PER MUNICIPAL STANDARD (MMM).
5. INSTALL 80mm Ø CONSUMER ISOLATING VALVE IN BELLTOBY VALVE BOX INSIDE PROPERTY (MMM).
6. INSTALL ON-SITE NETWORK AS PER DETAIL.

NOTE:

ALL PIPES AND FITTINGS FOR UNDERGROUND DOMESTIC WATER NETWORK SHALL COMPLY WITH THE FOLLOWING:

mPVC PIPE:
MATERIAL - MODIFIED POLY VINYL CHLORIDE
PIPE - SABS 966 PART 11: 1998
SEAL RINGS - SABS 974
BENDS - SABS 966 PART 11: 1998

HDPE PIPE:
MATERIAL - HOMO-POLYMER OF ETHYLENE OR CO-POLYMER OF ETHYLENE AND HIGHER OLEFINS
PIPE - SABS 533 PART 11:1982 (AMENDED MAY 1993) HIGH DENSITY BLACK POLYETHYLENE PRESSURE PIPES TYPE IV IN WHICH THE NOMINAL SIZE IS RELATED TO THE OUTSIDE DIAMETER.
- SABS 533 PART 111:1995 (AMENDED AUGUST 1997) HIGH DENSITY BLACK POLYETHYLENE PE 80 PRESSURE PIPES TYPE V IN WHICH THE NOMINAL SIZE IS RELATED TO THE OUTSIDE DIAMETER.
FITTINGS - COMPRESSION TYPE FITTINGS WITH LIP GASKET

STEEL PIPE:
MATERIAL - UP TO 150mm Ø: MILD STEEL TO SABS 62 ERW GRADE "A" MEDIUM DUTY
- OVER 150mm Ø: MILD STEEL TO SABS 719 ERW GRADE "A" MEDIUM DUTY
FLANGES - SABS 1123 TABLE 1600/3
COUPLINGS - VIKING JOHNSON REPAIR COUPLINGS
CORROSION - HOT DIPPED GALVANIZING TO SABS 763 FOR FABRICATED ITEMS.

COPPER TUBING:
MATERIAL - COPPER TUBING SHALL COMPLY WITH SABS 460/85 (as amended 1986) TO THE FOLLOWING CLASSES:
- 460/0 TUBES CLASS 0 (HARD DRAWN) ABOVE GROUND AND EXPOSED ONLY.
- 460/1 TUBES CLASS 1 (LIGHT, HALF HARD) ABOVE GROUND AND EXPOSED ONLY.
- 460/2 TUBES CLASS 2 (MEDIUM, HALF HARD) ABOVE AND BELOW GROUND AND CHASED IN.
- 460/3 TUBES CLASS 3 (HEAVY, HALF HARD) ONLY USED FOR UNDERGROUND PLUMBING.
FITTINGS - FITTINGS SHALL BE OF THE CAPILLARY SOLDERED JOINTS TYPE EXCEPT FOR UNDERGROUND WHERE COMPRESSION FITTINGS SHALL BE USED.
SOLDERS - SOLDERS USED FOR CAPILLARY FITTINGS SHALL COMPLY WITH SABS 24-1971 AMENDED 1987, OR DIN 1707 SPECIFICATIONS AND SHALL BE OF GRADE 97/3 (97% TIN, 3% COPPER)

NOTE:

ALL PIPES AND FITTINGS FOR ON SITE FIRE WATER NETWORK AND CONNECTIONS TO COMPLY WITH THE FOLLOWING:

uPVC PIPE:
PRESSURE CLASS - CLASS 09 OR AS INDICATED
MATERIAL - UNPLASTICISED POLY VINYL CHLORIDE
PIPE - SABS 966 PART 1: 1998
SEAL RINGS - SABS 974
BENDS - SABS 966 PART 1: 1998

HDPE PIPE:
PRESSURE CLASS - CLASS 12 OR AS INDICATED
MATERIAL - HOMO-POLYMER OF ETHYLENE OR CO-POLYMER OF ETHYLENE AND HIGHER OLEFINS
PIPE - SABS 533 PART 11:1982 HIGH DENSITY BLACK POLYETHYLENE PRESSURE PIPES
FITTINGS - COMPRESSION TYPE FITTINGS WITH LIP GASKET

STEEL PIPE:
PRESSURE CLASS - MEDIUM DUTY
MATERIAL - UP TO 150mm [MILD STEEL TO SABS 62 MEDIUM
- OVER 150mm [MILD STEEL TO SABS 719 ERW GRADE A MEDIUM
FLANGES - SABS 1123 TABLE 1600/3
COUPLINGS - VIKING JOHNSON REPAIR COUPLINGS
CORROSION PROTECTION - HOT DIPPED GALVANIZING TO SABS 763 AND 10240 FOR FABRICATED ITEMS.

COPPER TUBING:
MATERIAL - COPPER TUBING SHALL COMPLY WITH SABS 460/85 (as amended 1986) TO THE FOLLOWING CLASSES.
- 460/0 TUBES CLASS 0 (HARD DRAWN) ABOVE GROUND AND EXPOSED.
- 460/1 TUBES CLASS 1 (LIGHT, HALF HARD) ABOVE GROUND AND EXPOSED.
- 460/2 TUBES CLASS 2 (MEDIUM, HALF HARD) ABOVE AND BELOW GROUND AND CHASED IN.
FITTINGS - FITTINGS SHALL BE OF THE CAPILLARY SOLDERED JOINTS TYPE EXCEPT FOR UNDERGROUND WHERE COMPRESSION FITTINGS SHALL BE USED.
SOLDERS - SOLDERS USED FOR CAPILLARY FITTINGS SHALL COMPLY WITH SABS 24-1971 AMENDED 1987, OR DIN 1707 SPECIFICATIONS AND SHALL BE OF GRADE 97/3 (97% TIN, 3% COPPER)

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY: COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

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SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
WATER MATERIAL
SPECIFICATIONS AND DETAILS

APPROVED BY BVI

DF LEUKES | 20027014S | 2024/02/16
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SCALE	AS SHOWN	DRAWN	N MAKENA
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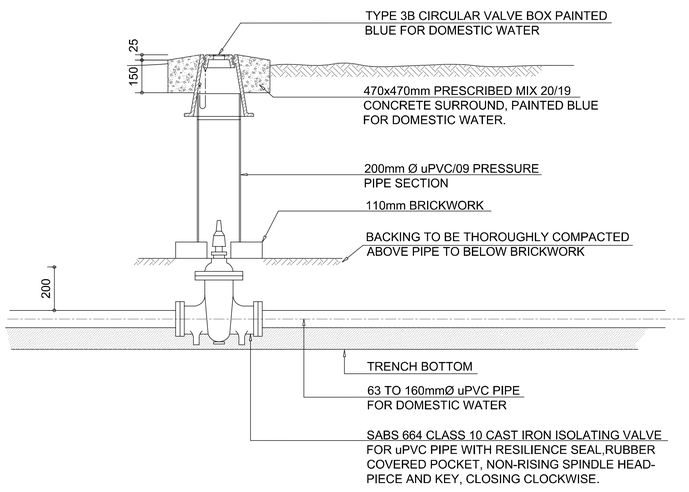
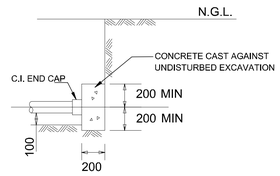


TYPICAL DOM. WATER VALVE BOX-TYPE 1

1 : 10



SECTION : END CAP

NOT TO SCALE

NOTES:
COVER ON uPVC WATER PIPES SHALL BE FOR:
1 DOMESTIC WATER SUPPLY:
1.1) NORMAL OPEN AREAS = 500mm
1.2) UNDER WALKWAYS = 700mm
1.3) UNDER PERMANENT SURFACED ROADWAYS = 800mm

2 FIRE WATER SUPPLY:
2.1) NORMAL OPEN AREAS = 600mm
2.2) UNDER WALKWAYS AND PAVED PARKING = 600mm
2.3) UNDER PERMANENT SURFACED ROADWAYS = 800mm

3 TRENCH EXCAVATIONS FOR DOMESTIC WATER NOMINAL 1,0m BUT MAX. 1,5m

4 TRENCH EXCAVATIONS FOR FIRE WATER NOMINAL 1,2m BUT MAX. 2,0m

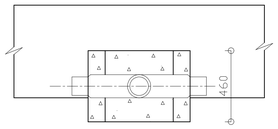
5 PIPE BEDDING AND BLANKET MATERIAL SHALL CONFORM TO SABS 1200 LB.

5.1 SELECTED GRANULAR MATERIAL FOR BEDDING CRADLE
a) GRADING 0,6 - 19mm
b) NON CORROSIVE , FREE DRAINING
c) COMPACTABILITY FACTOR MAX. 0,4
d) PI MAX. 6

5.2 SELECTED FILL MATERIAL FOR SELECTED FILL BLANKET
a) MAXIMUM PARTICLE SIZE 30mm
b) PI MAX. 6

6 PREPARATION FOR TESTING

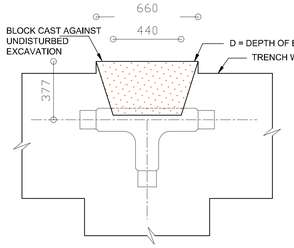
6.1 PRESSURE BLOCKS SHALL BE AT LEAST 48 HOURS OLD BEFORE ANY TESTING CAN TAKE PLACE.
6.2 CONSTRUCTION OF MANHOLES AND VALVE BOXES CAN ONLY COMMENCE AFTER THE PIPE LINE WITH ALL FITTINGS HAVE BEEN TESTED.



ELEVATION

DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT [PIPES END CAPS, AND T-PIECES & LINE PRESSURE < 0.9 MPa

PIPE Ø	A m	D mm	L mm	B mm	V m
50	0.045	150	300	100	0.005
75	0.045	150	300	150	0.005
100	0.070	200	350	200	0.010
150	0.150	300	500	300	0.030
200	0.245	350	700	350	0.064
250	0.300	400	850	450	0.111
300	0.525	500	1050	550	0.210
350	0.660	600	1100	750	0.305

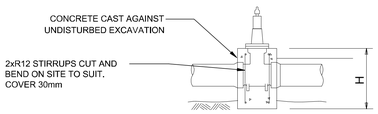


NOTE:

1. CONCRET STRENGTH 15 MPa AT 28 DAYS
2. THRUST BLOCK TO BE CAST AGAINST INSITU MATERIAL
3. THRUST AREA "A" IN SQUARE METRES
4. CONCRETE VOLUME "V" ALLOWED IN CUBIC METRES

PLAN

THRUST BLOCK FOR TEES

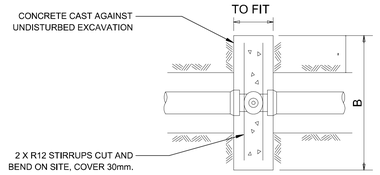


DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT [WATERWORKS VALVES AND LINE PRESSURES < 0.9 MPa

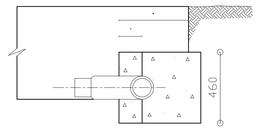
PIPE Ø	A m	H mm	L mm	B mm	b mm	V m
50	0.060	300	TO FIT	700	100	0.057
75	0.060	300	TO FIT	700	100	0.057
100	0.090	300	TO FIT	700	150	0.095
150	0.150	300	TO FIT	700	250	0.188
200	0.300	600	TO FIT	1000	250	0.375
250	0.300	600	TO FIT	1000	250	0.375
300	0.660	600	TO FIT	1000	550	1.221
350	0.660	600	TO FIT	1000	550	1.221

SECTION

NOT TO SCALE



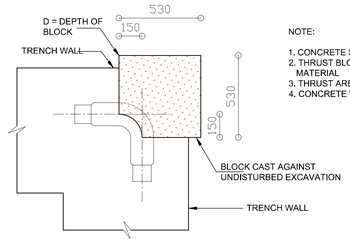
THRUST BLOCK FOR VALVE



ELEVATION

DIMENSIONS OF THRUST BLOCKS FOR DIFFERENT [PIPES, 90[BENDS & LINE PRESSURE < 0.9 MPa

PIPE Ø	A m	D mm	L mm	B mm	V m
50	0.03	150	300	75	0.01
70	0.06	150	350	100	0.02
100	0.11	200	400	100	0.03
150	0.25	300	450	150	0.06
200	0.44	400	500	300	0.14
250	0.69	500	700	350	0.21
300	1.0	600	800	450	0.32
350	1.36	700	1000	500	0.52

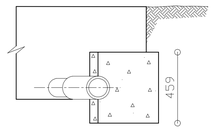


NOTE:

1. CONCRETE STRENGTH 15 MPa AT 28 DAYS
2. THRUST BLOCK TO BE CAST AGAINST INSITU MATERIAL
3. THRUST AREA "A" IN SQUARE METRES
4. CONCRETE VOLUME "V" ALLOWED IN CUBIC METRES

PLAN

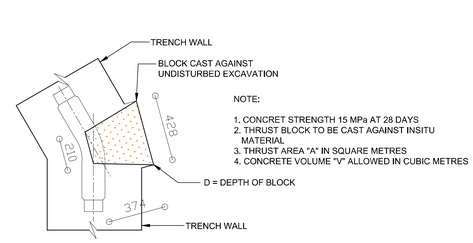
THRUST BLOCK 90° BEND



ELEVATION

DIMENSIONS OF THRUST BLOCK FOR 45[BENDS AND LESS & LINE PRESSURE < 0.9 MPa

PIPE Ø	D	L	B	W	A	V
50	150	200	100	300	0.02	0.01
70	150	200	100	300	0.03	0.01
100	200	300	150	300	0.06	0.01
150	300	400	200	300	0.14	0.03
200	350	650	250	300	0.24	0.05
250	400	850	300	400	0.38	0.09
300	500	1000	350	450	0.54	0.15
350	600	1150	400	500	0.74	0.23



NOTE:

1. CONCRET STRENGTH 15 MPa AT 28 DAYS
2. THRUST BLOCK TO BE CAST AGAINST INSITU MATERIAL
3. THRUST AREA "A" IN SQUARE METRES
4. CONCRETE VOLUME "V" ALLOWED IN CUBIC METRES

PLAN

THRUST BLOCK 45° BEND & LESS

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
WATER: DOMESTIC AND FIRE
MATERIAL SPECIFICATIONS
AND DETAILS

APPROVED BY SVI

DF LEUKES 200270145 2024/02/16
ENGINEER/TECHNOLOGIST REG. NO. DATE

SCALE	AS SHOWN	DRAWN	N MAKENA
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LAYERS USED B34581C-143-02	1	16 Feb 2024

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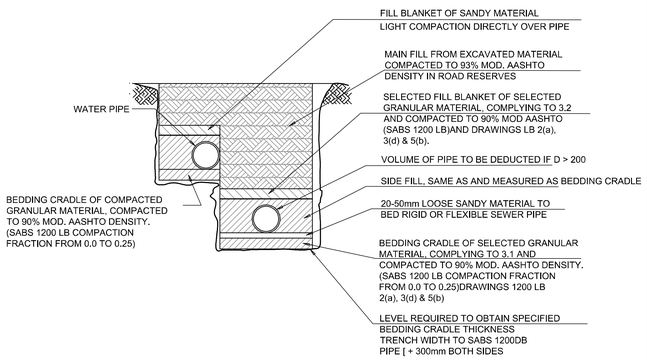
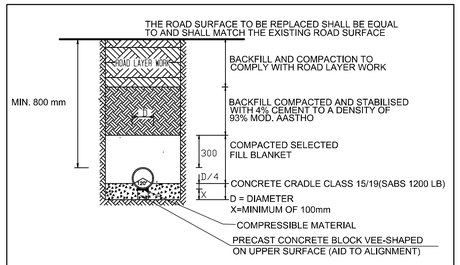
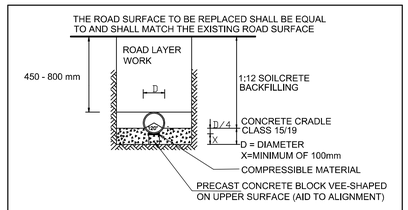


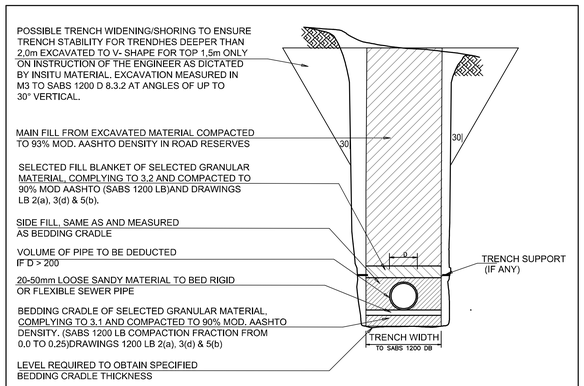
MEASUREMENT OF BEDDING FOR COMBINED TRENCH



ROAD CROSSING : COVER > 800



ROAD CROSSING:
COVER >450mm <800mm



DETAILS OF TRENCH EXCAVATIONS
DEEPER THAN 2,0m

NOTES:

1 MINIMUM COVER ON SEWER PIPES SHALL BE:
1.1 UNDER WALKWAYS = 800
1.2 UNDER PERMANENT SURFACED ROADWAYS = 1000
1.3 UNDER GRAVEL SURFACED ROADWAYS = 1150

2 TRENCH EXCAVATIONS WILL NOMINALLY BE UP TO 2,0m DEEP.

3 PIPE BEDDING AND BLANKET MATERIAL SHALL CONFORM TO SABS 1200 LB.

3.1 SELECTED GRANULAR MATERIAL FOR BEDDING CRADLE AND SIDE FILL
a) GRADING 0,6 - 19mm
b) NON CORROSIVE , FREE DRAINING
c) COMPACTABILITY FACTOR MAX. 0,25
d) PI MAX. 6

3.2 SELECTED FILL MATERIAL FOR SELECTED FILL BLANKET
a) MAXIMUM PARTICLE SIZE 30mm
b) PI MAX. 6

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER
LAYERS USED

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CONSULTING ENGINEERS
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PROJECT

SMITHFIELD: MULTI-PURPOSE INDOOR SPORT CENTRUM
FOR
DEPARTMENT OF SPORTS, ARTS, CULTURE & RECREATION

DRAWING TITLE

CIVIL ENGINEERING SERVICES:
WATER TRENCH DETAILS

APPROVED BY BVI

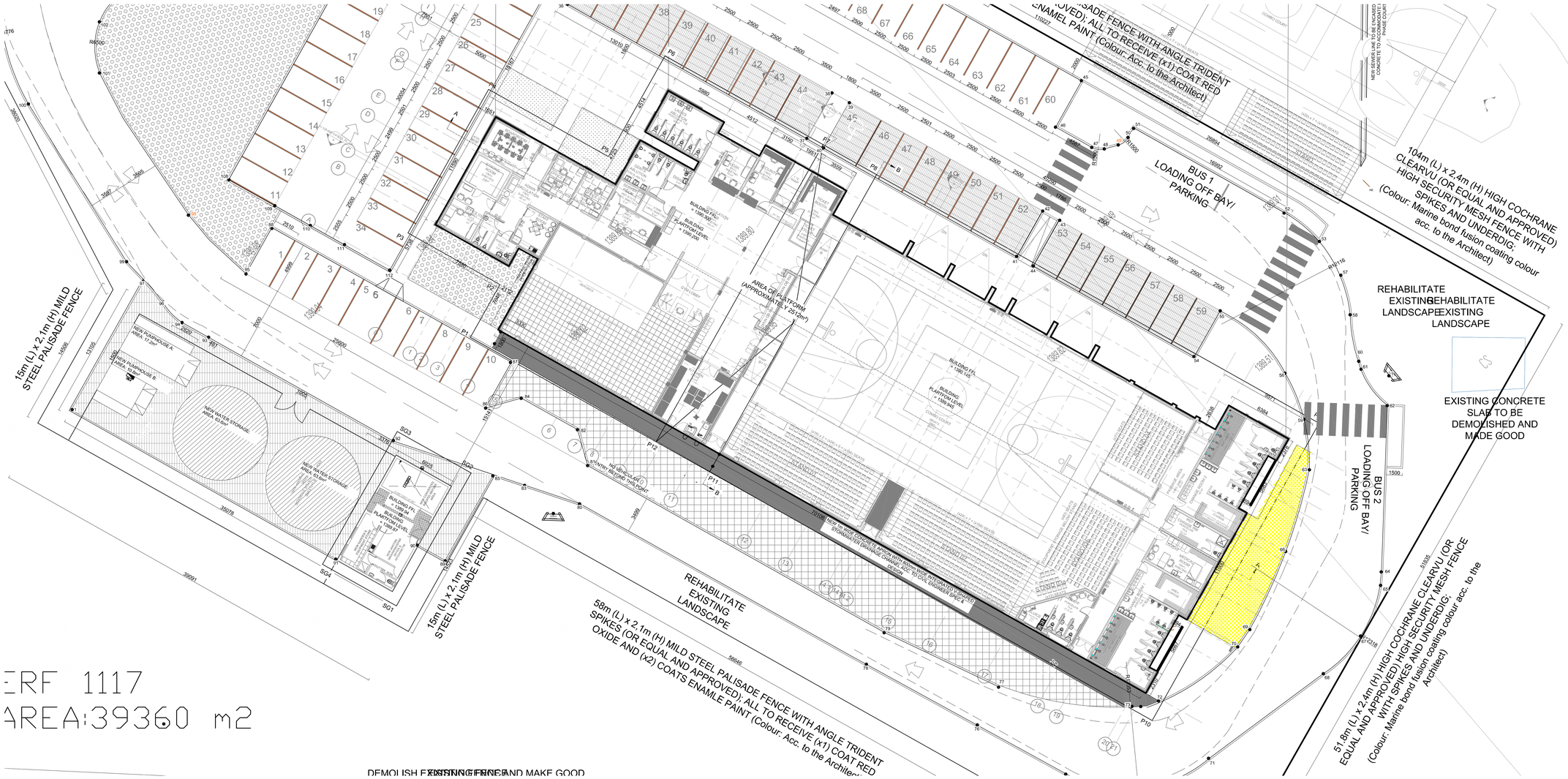
DF LEUKES | 200270145 | 2024/02/16
ENGINEER/TECHNOLOGIST | REG. NO. | DATE

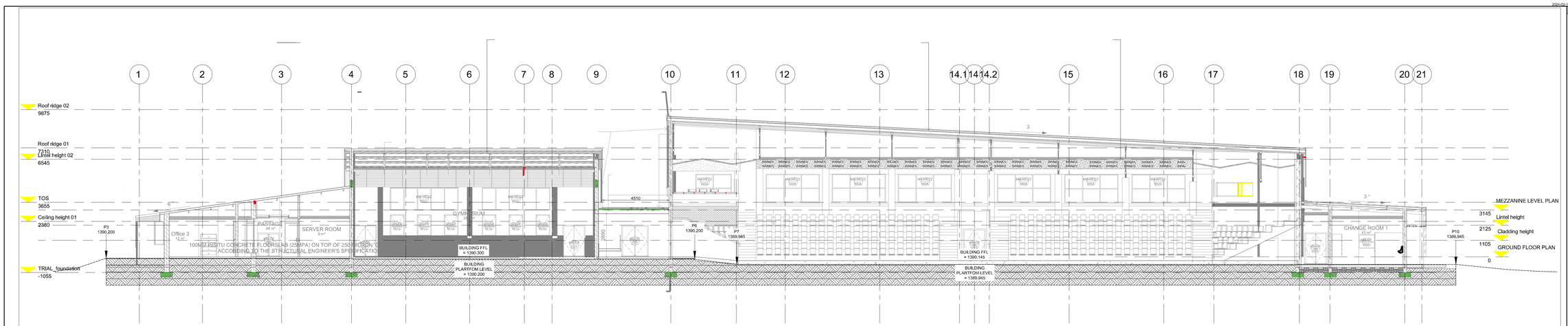
SCALE	AS SHOWN	DRAWN	N MAKENA
DESIGNED	L MATHEBE	CHECKED	DF LEUKES

PLAN NUMBER	REVISION NO.	DATE SAVED
B34581C-000-01	1	16 Feb 2024

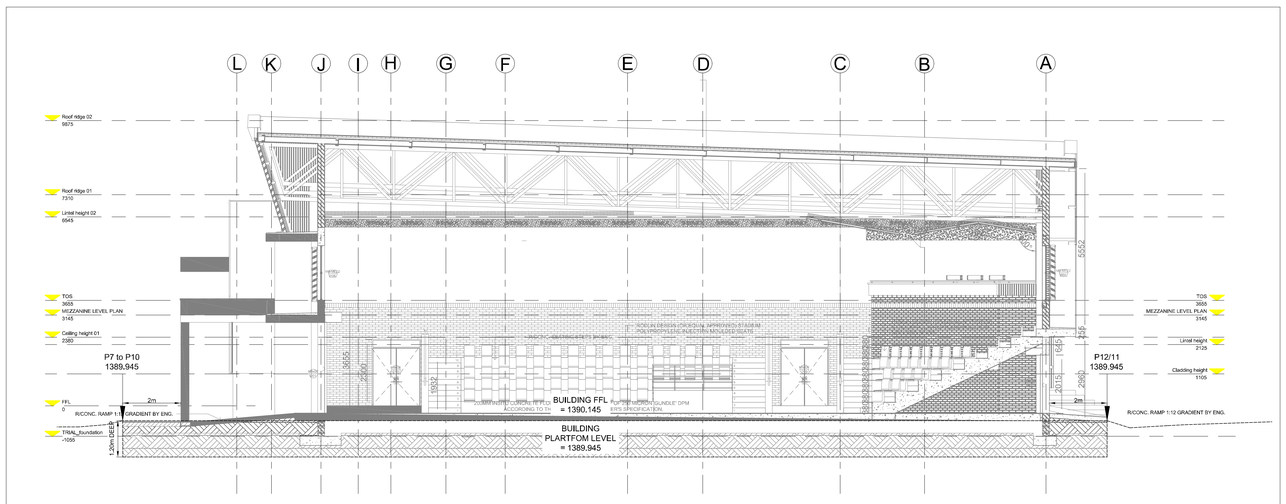
2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev8..dwg

N:\Bloemfontein\Projects\33338-39999 DELTEK\34581 Smithfield Indoor Sport Centre\DRAWINGS\SCONSTRUCTION DRAWINGS\CIVIL\2024-02-16 Smith field Indoor sport Centre_Civil Drawings Rev8..dwg


15m (L) x 2.1m (H) MILD STEEL PALISADE FENCE
REHABILITATE EXISTING LANDSCAPE
58m (L) x 2.1m (H) MILD STEEL PALISADE FENCE WITH ANGLE TRIDENT SPIKES (OR EQUAL AND APPROVED): ALL TO RECEIVE (x1) COAT RED OXIDE AND (x2) COATS ENAMLE PAINT (Colour: Acc. to the Architect)
DEMOLISH EXISTING FENCE AND MAKE GOOD
104m (L) x 2.4m (H) HIGH COCHRANE CLEARVU (OR EQUAL AND APPROVED) HIGH SECURITY MESH FENCE WITH SPIKES AND UNDERDIG: (Colour: Marine bond fusion coating colour acc. to the Architect)
BUS 1 LOADING OFF BAY/ PARKING
BUS 2 LOADING OFF BAY/ PARKING
REHABILITATE EXISTING LANDSCAPE
EXISTING CONCRETE SLAB TO BE DEMOLISHED AND MADE GOOD
AREA OF PLATFORM (APPROXIMATELY 23 72m²)
NEW WATER STORAGE: AREA 63.9m²
NEW WATER STORAGE: AREA 63.9m²
NEW PUMPHOUSE A: AREA 17.2m²
NEW PUMPHOUSE B: AREA 17.2m²
BUILDING FFL = 1389.450
BUILDING PLATFORM LEVEL = 1389.200
BUILDING FFL = 1389.145
BUILDING PLATFORM LEVEL = 1389.945
NEW RETAINING WALL (REFER TO STRUCTURAL DRAWINGS)



BUILDING PLATFORM
SECTION A-A
SCALE 1:100



BUILDING PLATFORM
SECTION B-B
SCALE 1:100

NOTES:

1. TOPSOIL
   --GRASS TO BE BLADED OFF AND 200mm TOPSOIL TO BE STRIPPED AND SPOILED
2. ALL CUT SLOPES TO BE SHAPED TO 1:1.5 AND FILL SLOPES TO 1:2 UNLESS OTHERWISE DIRECTED BY THE ENGINEER ON SITE.
3. FILL AREAS:
   -- FILL MATERIAL TO BE COMPACTED IN LAYERS OF 150mm MAX. TO 98% MOD AASHTO
4. FREQUENCY TESTING:
   -- EACH LAYER TO BE TESTED WITH MIN. OF 2 DENSITY TESTS (15000m²)

NOTE:
PAVEMENT DESIGN :

A: PLATFORM PAVEMENT DESIGN REQUIRED
A.1: SELECTED FILL OF MIN 150mm THICK "G5 OR G6" GRAVEL COMPACTED TO 97% MOD. AASHTO DENSITY.
A.2: IN-SITU ROADBED MATERIAL: RIP AND RECOMPACT 200mm TO 93% MOD. AASHTO DENSITY AS FOR "G10" GRAVEL MATERIAL.

BUILDING PLATFORM QUANTITIES (MATERIALS)

TOTAL CUT MATERIAL FOR BUILDING PLATFORM
==========

Description : BUILDING PLATFORM-CUT MATERIAL
Ground Surface : NGL
Design Surface : PLATFORM CUT LVL
Ground Hole Distance : 30.000
Design Hole Distance : 100.000
Grid Interval : 2.400
The unadjusted volumes are :-
2646.08 cu.m. total Cut.
0.07 cu.m. total Fill.
2847.36 sq.m. total area in Cut.
3.84 sq.m. total area in Fill.

Volumes adjusted for 98.00% compaction and 0.20m Topsoil stripping :-
2035.08 cu.m. Cut available for Fill
0.84 cu.m. of Fill is required giving:-
2034.24 cu.m. of excess Cut and:-
570.24 cu.m. of Topsoil to be stripped

BUILDING PLATFORM QUANTITIES (MATERIALS)

TOTAL FILL MATERIAL (G5 OR G6) FOR BUILDING PLATFORM
==========

Description : BUILDING PLATFORM-CUT MATERIAL
Ground Surface : FINAL CUT LVL
Design Surface : BUILDING PLATFORM
Ground Hole Distance : 30.000
Design Hole Distance : 100.000
Grid Interval : 2.900
The unadjusted volumes are :-
0.00 cu.m. total Cut.
2754.78 cu.m. total Fill.
0.00 sq.m. total area in Cut.
2649.15 sq.m. total area in Fill.

Volumes adjusted for 98.00% compaction and 0.00m Topsoil stripping :-
0.00 cu.m. Cut available for Fill
2754.78 cu.m. of Fill is required giving:-
2754.78 cu.m. of Fill shortfall and:-
0.00 cu.m. of Topsoil to be stripped

NOTES / LEGEND

CONSTRUCTION DRAWING

CLIENT PLAN NUMBER

LAYERS USED

REFERENCE DRAWINGS

NUMBER	REVISION	DRAWING DESCRIPTION

APPROVED BY COUNCIL / CLIENT

CITY ENGINEER / CLIENT | REG. NO. | DATE

AMENDMENTS CODE

A.R.C../ : BEFORE TENDER
0 / : TENDER DRAWING
1,2,3.../ : AFTER TENDER
Z / : AS BUILT

/A : BY CLIENT
/B : BY ARCHITECT
/C : BY MECHANICAL OR ELECTRICAL
/D : BY SVI
/E : BY OTHER ( )

DATE	INITIAL	No./CODE	REVISION DESCRIPTION
28/03/2020	LM	A/0	DETAILED DESIGN DRAWINGS
16/02/2024	LM	A/0	CONSTRUCTION DRAWINGS

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DRAWING TITLE

CIVIL ENGINEERING SERVICES:
BUILDING PLATFORM
SECTION A-A & B-B

APPROVED BY BVI

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ENGINEER/TECHNOLOGIST | REG. NO. | DATE

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