9.0. FUNCTIONAL AREA PLANS

Functional Areas

9.1 ELLIS PARK

Figure 168 : Vision Plan - Ellis Park

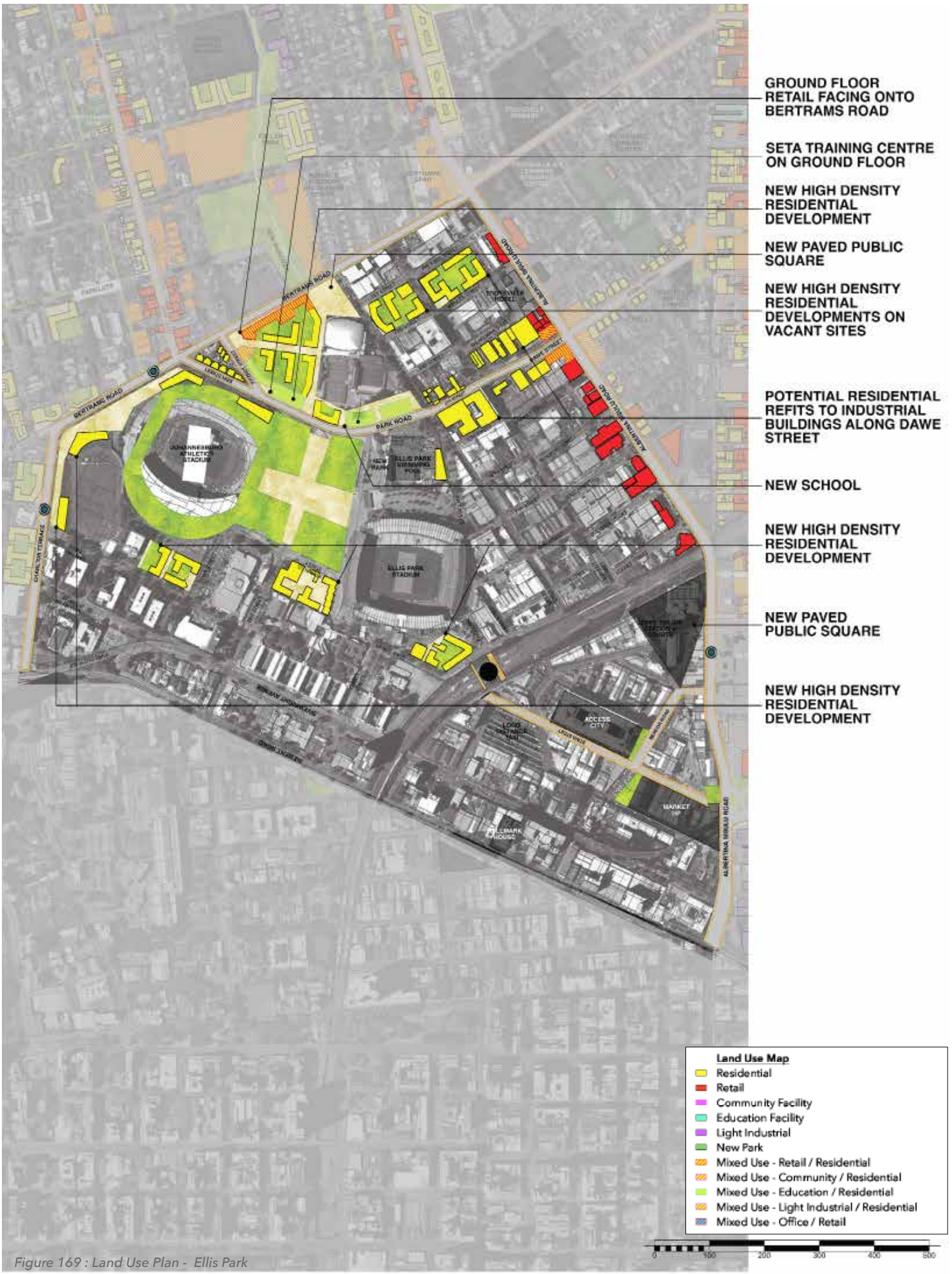


Figure 169 : Land Use Plan - Ellis Park

9.2 BERTRAMS

Figure 170 : Vision Plan - Bertrams

Figure 171 : Land Use Plan - Ellis Park

9.3 KENSINGTON

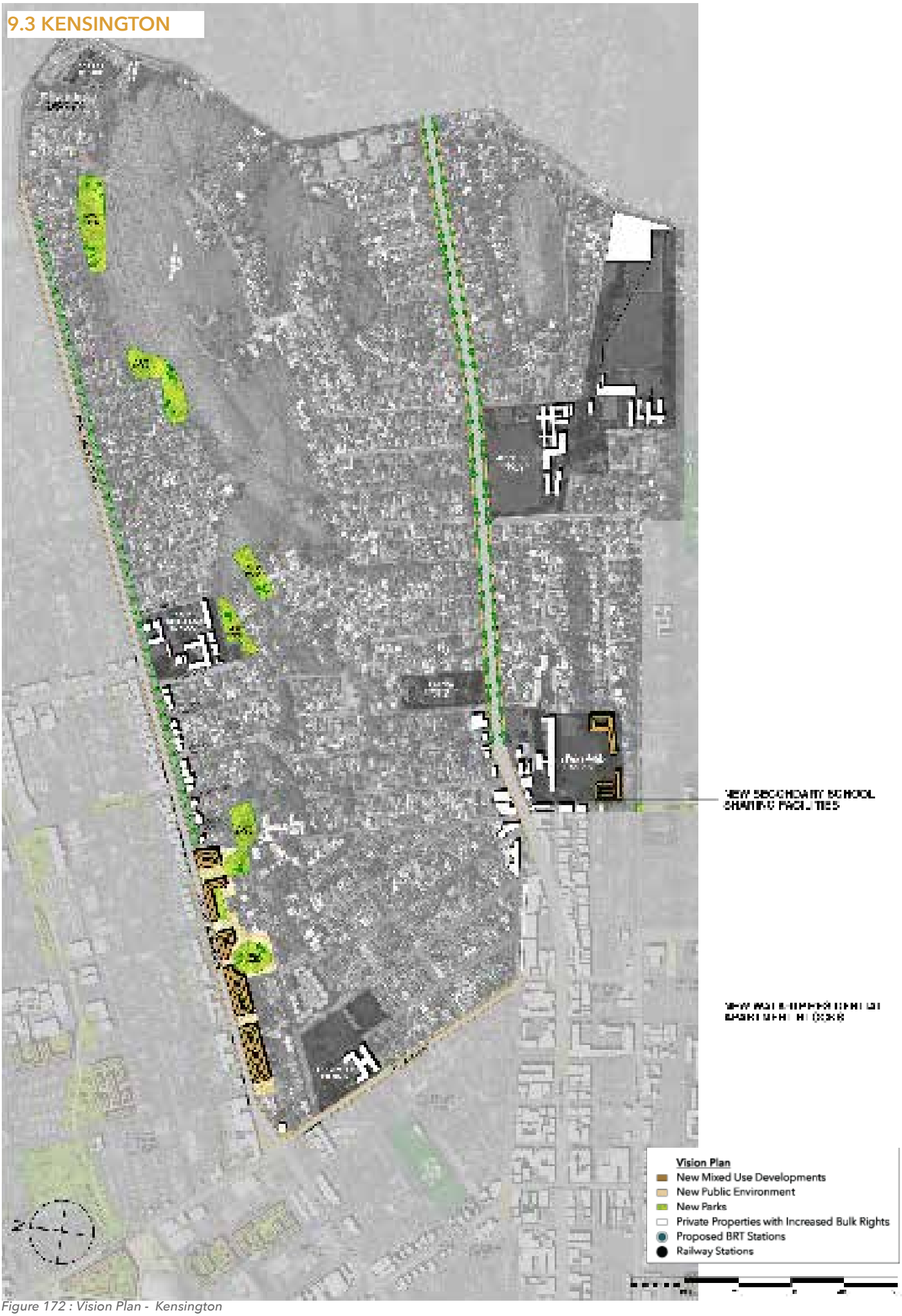


Figure 172 : Vision Plan - Kensington

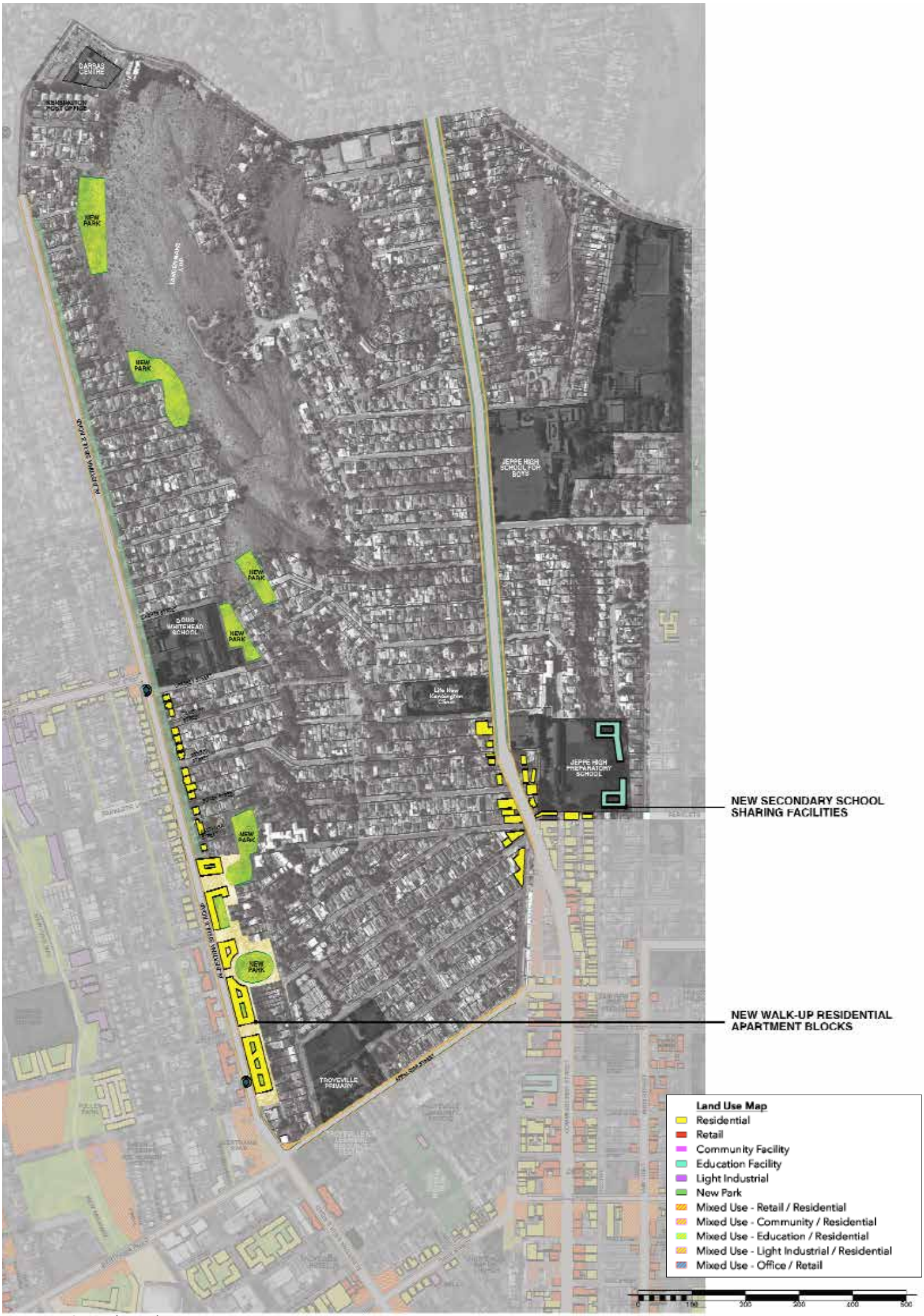


Figure 173 : Land Use Plan - Kensington

9.4 CITY & SUBURBAN / TROYEVILLE

Figure 174 : Vision Plan - City & Suburban / Troyeville

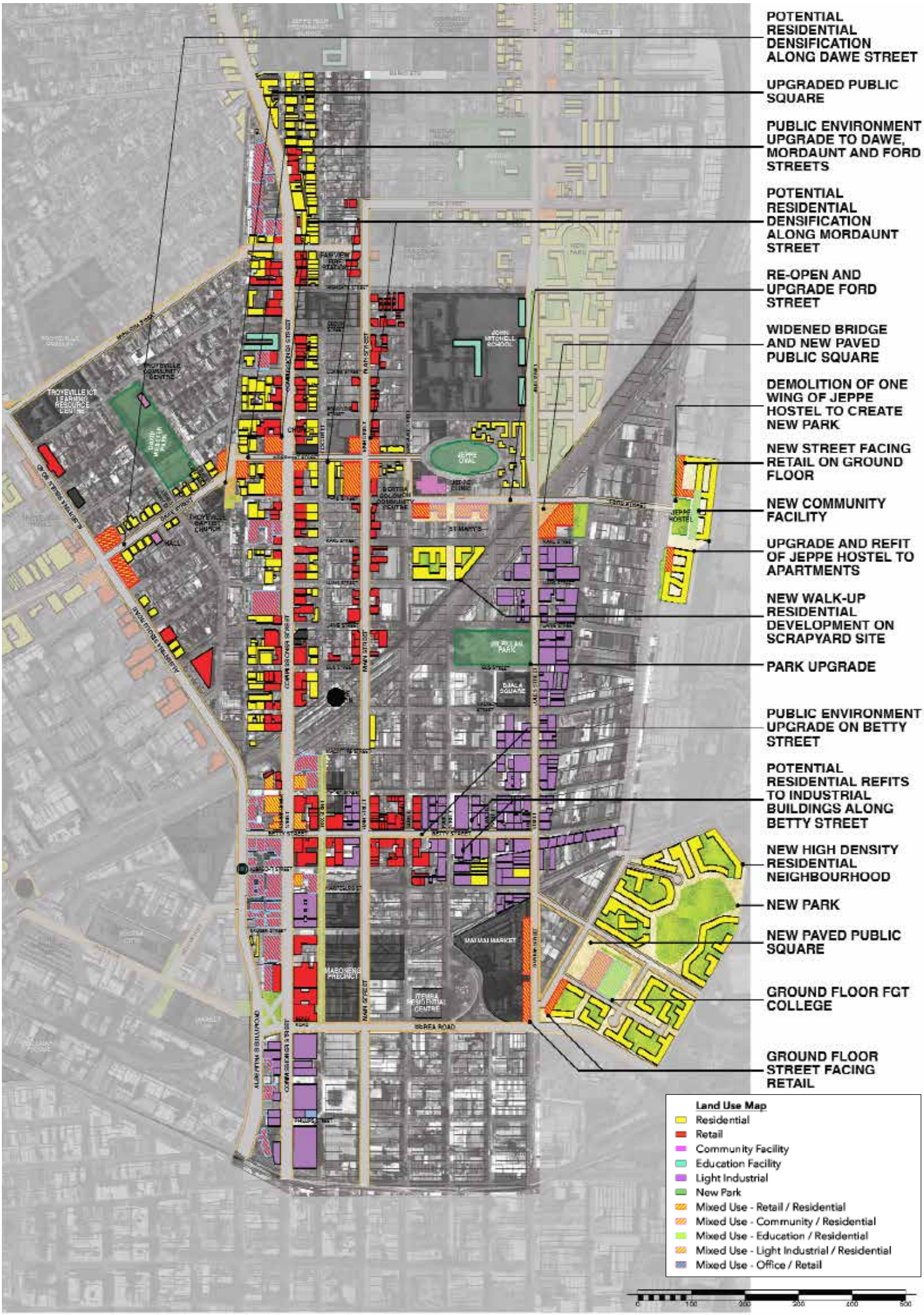


Figure 175 : Land Use Plan - City & Suburban / Troyeville

9.5 JEPPESTOWN

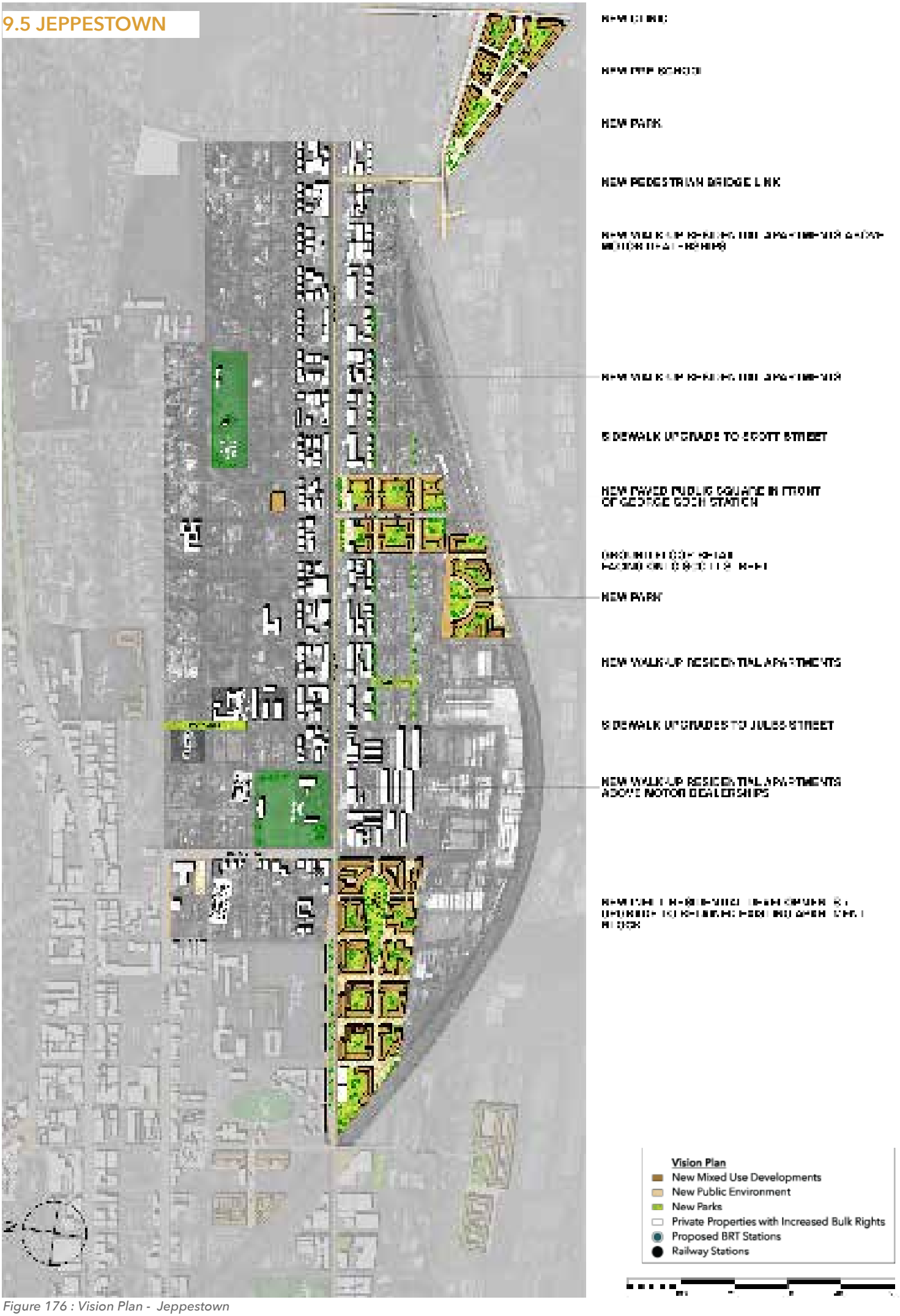


Figure 176 : Vision Plan - Jeppestown

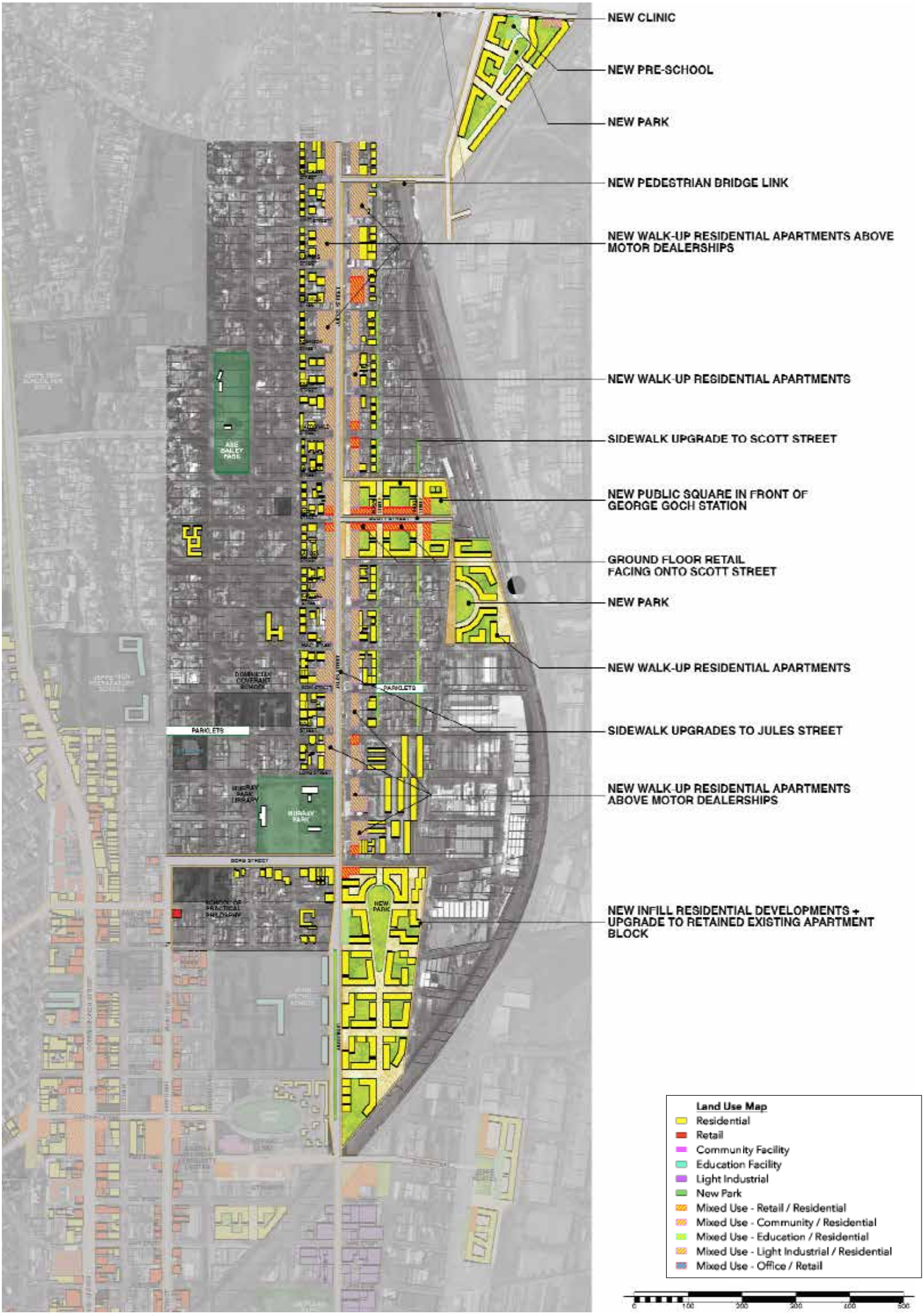


Figure 177 : Land Use Plan - Jeppestown

10.0. IMPLEMENTATION STRATEGY

10.1. Priority Projects - Phase 1 Projects

PUBLIC ENVIRONMENT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Public Environment	Derby Road (Fuller to 1st)	1	R 3 748 500,00	R 637 245,00	R 749 700,00	R 562 275,00
2	Public Environment	Albertina Sisulu Road (Berea to Bertrams)	1	R 6 955 200,00	R 1 182 384,00	R 1 391 040,00	R 1 043 280,00
3	Public Environment	Albertina Sisulu Road (Bertrams to 1st)	1	R 5 086 800,00	R 864 756,00	R 1 017 360,00	R 763 020,00
4	Public Environment	Staib Street (Angle to Albertina Sisulu)	1	R 1 579 500,00	R 268 515,00	R 315 900,00	R 236 925,00
5	Public Environment	Erin/Park/Dawe Street (Bertrams to Albertina Sisulu)	1	R 4 023 000,00	R 683 910,00	R 804 600,00	R 603 450,00
6	Public Environment	Remodelling of AS/Commissioner Square	1	R 2 210 400,00	R 375 768,00	R 442 080,00	R 331 560,00
7	Public Environment	Jhb Athletics Stadium Forecourt	1	R 3 865 500,00	R 657 135,00	R 773 100,00	R 579 825,00
8	Public Environment	Standard Bank Arena Forecourt	1	R 3 659 400,00	R 622 098,00	R 731 880,00	R 548 910,00
9	Public Environment	Ascot Road Greening (Bertrams)	1	R 11 650 500,00	R 1 980 585,00	R 2 330 100,00	R 1 747 575,00
10	Public Environment	2nd Avenue Greening (Bezuidenhout Valley)	1	R 3 766 500,00	R 640 305,00	R 753 300,00	R 564 975,00
11	Public Environment	Victoria Road Greening (Lorentzville)	1	R 6 412 500,00	R 1 090 125,00	R 1 282 500,00	R 961 875,00
12	Public Environment	Kimberley Road Greening (Bertrams)	1	R 2 700 000,00	R 459 000,00	R 540 000,00	R 405 000,00
13	Public Environment	Carnarvon Road Greening (Bertrams)	1	R 12 757 500,00	R 2 168 775,00	R 2 551 500,00	R 1 913 625,00
14	Public Environment	Liddle Street Greening (Bertrams)	1	R 3 685 500,00	R 626 535,00	R 737 100,00	R 552 825,00
15	Public Environment	Queen Street Greening (Bertrams)	1	R 3 793 500,00	R 644 895,00	R 758 700,00	R 569 025,00
TOTAL							

HOUSING

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Housing	Precinct 1	1	R 73 590 000,00	R 12 510 300,00	R 14 718 000,00	R 11 038 500,00
2	Housing	Precinct 2	1	R 160 089 600,00	R 27 215 232,00	R 32 017 920,00	R 24 013 440,00
3	Housing	Precinct 3	1	R 23 548 800,00	R 4 003 296,00	R 4 709 760,00	R 3 532 320,00
4	Housing	Precinct 8	1	R 347 523 000,00	R 59 078 910,00	R 69 504 600,00	R 52 128 450,00
5	Housing	Precinct 9	1	R 95 766 000,00	R 16 280 220,00	R 19 153 200,00	R 14 364 900,00
6	Housing	Precinct 12	1	R 212 592 600,00	R 36 140 742,00	R 42 518 520,00	R 31 888 890,00
7	Housing	Precinct 13	1	R 140 096 000,00	R 23 816 320,00	R 28 019 200,00	R 21 014 400,00
TOTAL							

(Refer to Pages 160-161 for Housing Precincts)

HERITAGE

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Heritage	Restoration Fund for Bertrams Heritage Cluster	1	R 12 000 000,00	R 2 040 000,00	R 2 400 000,00	R 1 800 000,00
TOTAL							

PARKS

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Parks	Beit Street Park (Ellis Park)	1	R 5 000 000,00	R 850 000,00	R 1 000 000,00	R 750 000,00
2	Parks	Hunter Street Park (Bertrams)	1	R 3 500 000,00	R 595 000,00	R 700 000,00	R 525 000,00
3	Parks	North Avenue Park (Bertrams)	1	R 2 500 000,00	R 425 000,00	R 500 000,00	R 375 000,00
4	Parks	3rd Avenue Park (Bertrams)	1	R 2 500 000,00	R 425 000,00	R 500 000,00	R 375 000,00
5	Parks	New Parkway (Bertrams & Lorentzville)	1	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
6	Parks	Pocket Parks (Troyeville)	1	R 3 000 000,00	R 510 000,00	R 600 000,00	R 450 000,00
7	Parks	Pocket Parks (Kensington)	1	R 6 000 000,00	R 1 020 000,00	R 1 200 000,00	R 900 000,00
8	Parks	Gilfillan Park Upgrade	1	R 3 500 000,00	R 595 000,00	R 700 000,00	R 525 000,00
9	Parks	Jeppe Oval Upgrade	1	R 2 500 000,00	R 425 000,00	R 500 000,00	R 375 000,00
TOTAL							

HEALTH

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Health	New Clinic, Ellis Park	1	R 12 000 000,00	R 2 040 000,00	R 2 400 000,00	R 1 800 000,00
2	Health	New Clinic, Judith's Paarl	1	R 12 000 000,00	R 2 040 000,00	R 2 400 000,00	R 1 800 000,00
TOTAL							

COMMUNITY DEVELOPMENT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Com Dev	New Library, Ellis Park	1	R 5 000 000,00	R 850 000,00	R 1 000 000,00	R 750 000,00
2	Com Dev	New Library, Bezuidenhout Valley	1	R 5 000 000,00	R 850 000,00	R 1 000 000,00	R 750 000,00
TOTAL							

SCHOOLS

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	School	New FET College, Ellis Park	1	R 18 427 500,00	R 3 132 675,00	R 3 685 500,00	R 2 764 125,00
2	School	New Ellis Park School	1	R 18 705 000,00	R 3 179 850,00	R 3 741 000,00	R 2 805 750,00
3	School	John Mitchell School Expansion	1	R 24 930 000,00	R 4 238 100,00	R 4 986 000,00	R 3 739 500,00
4	School	Jeppe Preparatory School Expansion	1	R 24 172 500,00	R 4 109 325,00	R 4 834 500,00	R 3 625 875,00
5	School	New Judiths Paarl Primary School	1	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
TOTAL							

POLICE SERVICES

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	SAPS	3x Satellite Mobile Police Stations	1	R 600 000,00	R 102 000,00	R 120 000,00	R 90 000,00
TOTAL							

ROADS AND TRANSPORT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Roads Upgrades	Phase 1	1	R 2 988 800,59	R 508 096,10	R 597 760,12	R 448 320,09
2	Public Transport Improvements	Rea Vaya Extension to Eastgate + Feeder Routes	1 & 2	R 300 000 000,00	R 51 000 000,00	R 60 000 000,00	R 45 000 000,00
TOTAL							

ENGINEERING SERVICES

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Stormwater Upgrades	Phase 1	1	R 163 160,59	R 27 737,30	R 32 632,12	R 24 474,09
2	Water Upgrades	Phase 1	1	R 4 034 782,35	R 685 913,00	R 806 956,47	R 605 217,35
3	Sewer Upgrades	Phase 1	1	R 6 102 691,76	R 1 037 457,60	R 1 220 538,35	R 915 403,76
4	Electricity Upgrades	Phase 1	1	R 17 292 648,23	R 2 939 750,20	R 3 458 529,65	R 2 593 897,23
5	ICT Upgrades	WiFi to all Social Clusters	1 & 2	R 15 000 000,00	R 2 550 000,00	R 3 000 000,00	R 2 250 000,00
TOTAL							

TOTAL PHASE 1

Figure 178 : Priority Projects - Projected Costs and Timeline (Phase 1)

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 674 730,00	R 6 372 450,00	R 892 143,00	R 7 264 593,00	R 0,00	**R 7 264 593,00**	JRA/JDA	2018/07/01	2020/06/30
R 1 251 936,00	R 11 823 840,00	R 1 655 337,60	R 13 479 177,60	R 0,00	**R 13 479 177,60**	JRA/JDA	2020/07/01	2022/06/30
R 915 624,00	R 8 647 560,00	R 1 210 658,40	R 9 858 218,40	R 0,00	**R 9 858 218,40**	JRA/JDA	2021/07/01	2022/06/30
R 284 310,00	R 2 685 150,00	R 375 921,00	R 3 061 071,00	R 0,00	**R 3 061 071,00**	JRA/JDA	2018/07/01	2020/06/30
R 724 140,00	R 6 839 100,00	R 957 474,00	R 7 796 574,00	R 0,00	**R 7 796 574,00**	JRA/JDA	2021/07/01	2022/06/30
R 397 872,00	R 3 757 680,00	R 526 075,20	R 4 283 755,20	R 0,00	**R 4 283 755,20**	JRA/JDA	2018/07/01	2020/06/30
R 695 790,00	R 6 571 350,00	R 919 989,00	R 7 491 339,00	R 0,00	**R 7 491 339,00**	JRA/JDA	2028/07/01	2029/06/30
R 658 692,00	R 6 220 980,00	R 870 937,20	R 7 091 917,20	R 0,00	**R 7 091 917,20**	JRA/JDA	2021/07/01	2022/06/30
R 2 097 090,00	R 19 805 850,00	R 2 772 819,00	R 22 578 669,00	R 0,00	**R 22 578 669,00**	JRA/JDA	2018/07/01	2019/06/30
R 677 970,00	R 6 403 050,00	R 896 427,00	R 7 299 477,00	R 0,00	**R 7 299 477,00**	JRA/JDA	2020/07/01	2021/06/30
R 1 154 250,00	R 10 901 250,00	R 1 526 175,00	R 12 427 425,00	R 0,00	**R 12 427 425,00**	JRA/JDA	2023/07/01	2024/06/30
R 486 000,00	R 4 590 000,00	R 642 600,00	R 5 232 600,00	R 0,00	**R 5 232 600,00**	JRA/JDA	2023/07/01	2024/06/30
R 2 296 350,00	R 21 687 750,00	R 3 036 285,00	R 24 724 035,00	R 0,00	**R 24 724 035,00**	JRA/JDA	2023/07/01	2024/06/30
R 663 390,00	R 6 265 350,00	R 877 149,00	R 7 142 499,00	R 0,00	**R 7 142 499,00**	JRA/JDA	2018/07/01	2019/06/30
R 682 830,00	R 6 448 950,00	R 902 853,00	R 7 351 803,00	R 0,00	**R 7 351 803,00**	JRA/JDA	2018/07/01	2019/06/30
					R 147 083 153,40			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 13 246 200,00	R 125 103 000,00	R 17 514 420,00	R 142 617 420,00	R 0,00	**R 142 617 420,00**	JoSHCo	2017/07/01	2020/06/30
R 28 816 128,00	R 272 152 320,00	R 38 101 324,80	R 310 253 644,80	R 0,00	**R 310 253 644,80**	JoSHCo	2017/07/01	2020/06/30
R 4 238 784,00	R 40 032 960,00	R 5 604 614,40	R 45 637 574,40	R 0,00	**R 45 637 574,40**	JoSHCo	2017/07/01	2019/06/30
R 62 554 140,00	R 590 789 100,00	R 82 710 474,00	R 673 499 574,00	R 0,00	**R 673 499 574,00**	JoSHCo	2018/07/01	2022/06/30
R 17 237 880,00	R 162 802 200,00	R 22 792 308,00	R 185 594 508,00	R 0,00	**R 185 594 508,00**	JoSHCo	2018/07/01	2021/06/30
R 38 266 668,00	R 361 407 420,00	R 50 597 038,80	R 412 004 458,80	R 0,00	**R 412 004 458,80**	JoSHCo	2018/07/01	2021/06/30
R 25 217 280,00	R 238 163 200,00	R 33 342 848,00	R 271 506 048,00	R 0,00	**R 271 506 048,00**	JoSHCo	2018/07/01	2021/06/30
					R 2 041 113 228,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 2 160 000,00	R 20 400 000,00	R 2 856 000,00	R 23 256 000,00	R 0,00	**R 23 256 000,00**	JDA	2017/07/01	2022/06/30
					R 23 256 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 900 000,00	R 8 500 000,00	R 1 190 000,00	R 9 690 000,00	R 0,00	**R 9 690 000,00**	JCP/JDA	2021/07/01	2022/06/30
R 630 000,00	R 5 950 000,00	R 833 000,00	R 6 783 000,00	R 0,00	**R 6 783 000,00**	JCP/JDA	2019/07/01	2020/06/30
R 450 000,00	R 4 250 000,00	R 595 000,00	R 4 845 000,00	R 0,00	**R 4 845 000,00**	JCP/JDA	2024/07/01	2025/06/30
R 450 000,00	R 4 250 000,00	R 595 000,00	R 4 845 000,00	R 0,00	**R 4 845 000,00**	JCP/JDA	2020/07/01	2021/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	JCP/JDA	2019/07/01	2021/06/30
R 540 000,00	R 5 100 000,00	R 714 000,00	R 5 814 000,00	R 0,00	**R 5 814 000,00**	JCP/JDA	2019/07/01	2021/06/30
R 1 080 000,00	R 10 200 000,00	R 1 428 000,00	R 11 628 000,00	R 0,00	**R 11 628 000,00**	JCP/JDA	2021/07/01	2023/06/30
R 630 000,00	R 5 950 000,00	R 833 000,00	R 6 783 000,00	R 0,00	**R 6 783 000,00**	JCP/JDA	2018/07/01	2019/06/30
R 450 000,00	R 4 250 000,00	R 595 000,00	R 4 845 000,00	R 0,00	**R 4 845 000,00**	JCP/JDA	2026/07/01	2027/06/30
					R 70 737 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 2 160 000,00	R 20 400 000,00	R 2 856 000,00	R 23 256 000,00	R 0,00	**R 23 256 000,00**	Health/JDA	2018/07/01	2020/06/30
R 2 160 000,00	R 20 400 000,00	R 2 856 000,00	R 23 256 000,00	R 0,00	**R 23 256 000,00**	Health/JDA	2018/07/01	2020/06/30
					R 46 512 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 900 000,00	R 8 500 000,00	R 1 190 000,00	R 9 690 000,00	R 0,00	**R 9 690 000,00**	ComDev/JDA	2018/07/01	2020/06/30
R 900 000,00	R 8 500 000,00	R 1 190 000,00	R 9 690 000,00	R 0,00	**R 9 690 000,00**	ComDev/JDA	2018/07/01	2020/06/30
					R 19 380 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 3 316 950,00	R 31 326 750,00	R 4 385 745,00	R 35 712 495,00	R 0,00	**R 35 712 495,00**	GDE	2018/07/01	2020/06/30
R 3 366 900,00	R 31 798 500,00	R 4 451 790,00	R 36 250 290,00	R 0,00	**R 36 250 290,00**	GDE	2018/07/01	2020/06/30
R 4 487 400,00	R 42 381 000,00	R 5 933 340,00	R 48 314 340,00	R 0,00	**R 48 314 340,00**	GDE	2026/07/01	2028/06/30
R 4 351 050,00	R 41 093 250,00	R 5 753 055,00	R 46 846 305,00	R 0,00	**R 46 846 305,00**	GDE	2030/07/01	2033/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2018/07/01	2021/06/30
					R 182 627 430,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 108 000,00	R 1 020 000,00	R 142 800,00	R 1 162 800,00	R 0,00	**R 1 162 800,00**	SAPS	2017/07/01	2018/06/30
					R 1 162 800,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 537 984,11	R 5 080 961,00	R 711 334,54	R 5 792 295,54	R 0,00	**R 5 792 295,54**	JRA	2017/07/01	2022/06/30
R 54 000 000,00	R 510 000 000,00	R 71 400 000,00	R 581 400 000,00	R 0,00	**R 581 400 000,00**	oJ Transportatio	2017/07/01	2022/06/30
					R 587 192 295,54			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 29 368,91	R 277 373,00	R 38 832,22	R 316 205,22	R 0,00	**R 316 205,22**	JRA	2017/07/01	2022/06/30
R 726 260,82	R 6 859 130,00	R 960 278,20	R 7 819 408,20	R 0,00	**R 7 819 408,20**	JW	2017/07/01	2022/06/30
R 1 098 484,52	R 10 374 576,00	R 1 452 440,64	R 11 827 016,64	R 0,00	**R 11 827 016,64**	JW	2017/07/01	2022/06/30
R 3 112 676,68	R 29 397 501,99	R 4 115 650,28	R 33 513 152,27	R 0,00	**R 33 513 152,27**	City Power	2017/07/01	2022/06/30
R 2 700 000,00	R 25 500 000,00	R 3 570 000,00	R 29 070 000,00	R 0,00	**R 29 070 000,00**	ComDev/JDA	2017/07/01	2028/06/30
					R 82 545 782,33			

R3 201 609 689,27

10.1. Priority Projects - Phase 2 & 3 Projects

PUBLIC ENVIRONMENT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Public Env	Commissioner Street (Berea to Appolonia)	2	R 7 889 400,00	R 1 341 198,00	R 1 577 880,00	R 1 183 410,00
2	Public Env	Main Street (Berea to Appolonia)	2	R 7 770 600,00	R 1 321 002,00	R 1 554 120,00	R 1 165 590,00
3	Public Env	Durban Street (Siemert to Betty)	2	R 1 890 000,00	R 321 300,00	R 378 000,00	R 283 500,00
4	Public Env	Jules Street (Betty to Ford)	2	R 3 321 000,00	R 564 570,00	R 664 200,00	R 498 150,00
5	Public Env	Jules Street (Ford to Berg)	2	R 2 894 400,00	R 492 048,00	R 578 880,00	R 434 160,00
6	Public Env	Jules Street (Berg to Scott)	2	R 3 423 600,00	R 582 012,00	R 684 720,00	R 513 540,00
7	Public Env	Jules Street (Scott to Blore)	2	R 3 785 400,00	R 643 518,00	R 757 080,00	R 567 810,00
8	Public Env	Margaret Mcingana (Durban to Mordaunt)	2	R 3 936 600,00	R 669 222,00	R 787 320,00	R 590 490,00
9	Public Env	Berea Road (Commissioner to Durban)	2	R 2 362 500,00	R 401 625,00	R 472 500,00	R 354 375,00
10	Public Env	Betty Street (Albertina Sisulu to Durban)	2	R 2 443 500,00	R 415 395,00	R 488 700,00	R 366 525,00
11	Public Env	New Streets in Kazerne	2	R 1 656 000,00	R 281 520,00	R 331 200,00	R 248 400,00
12	Public Env	Dawe Street (Albertina Sisulu to Op de Bergen)	2	R 1 300 500,00	R 221 085,00	R 260 100,00	R 195 075,00
13	Public Env	Mordaunt/Marshall/Ford Street (Op de Bergen to Jules)	2	R 2 943 000,00	R 500 310,00	R 588 600,00	R 441 450,00
14	Public Env	Ford Street (Jules to Margaret Mcingana)	2	R 1 143 000,00	R 194 310,00	R 228 600,00	R 171 450,00
15	Public Env	Appolonia/Grace Street (Albertina Sisulu to Main)	2	R 3 496 500,00	R 594 405,00	R 699 300,00	R 524 475,00
16	Public Env	Berg Street (Main to Hanau)	2	R 2 227 500,00	R 378 675,00	R 445 500,00	R 334 125,00
17	Public Env	Scott Street (Jules to Concession) + side streets	2	R 2 128 500,00	R 361 845,00	R 425 700,00	R 319 275,00
18	Public Env	Whitaker Street (Jules to railway line)	2	R 877 500,00	R 149 175,00	R 175 500,00	R 131 625,00
19	Public Env	Kazerne New Squares	2	R 20 064 600,00	R 3 410 982,00	R 4 012 920,00	R 3 009 690,00
20	Public Env	Troyeville Baptist Church Forecourt	2	R 201 600,00	R 34 272,00	R 40 320,00	R 30 240,00
21	Public Env	George Goch Square	2	R 2 044 800,00	R 347 616,00	R 408 960,00	R 306 720,00
22	Public Env	Doran Street Greening (Jeppestown)	2	R 10 422 000,00	R 1 771 740,00	R 2 084 400,00	R 1 563 300,00
23	Public Env	Tucker Street Greening (Jeppestown)	2	R 7 128 000,00	R 1 211 760,00	R 1 425 600,00	R 1 069 200,00
TOTAL							

HOUSING

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Housing	Precinct 4	2	R 8 830 800,00	R 1 501 236,00	R 1 766 160,00	R 1 324 620,00
2	Housing	Precinct 5	2	R 59 182 200,00	R 10 060 974,00	R 11 836 440,00	R 8 877 330,00
3	Housing	Precinct 6	2	R 28 868 400,00	R 4 907 628,00	R 5 773 680,00	R 4 330 260,00
4	Housing	Precinct 7	2	R 46 926 000,00	R 7 977 420,00	R 9 385 200,00	R 7 038 900,00
5	Housing	Precinct 11	2	R 34 729 200,00	R 5 903 964,00	R 6 945 840,00	R 5 209 380,00
6	Housing	Precinct 14	2	R 166 128 000,00	R 28 241 760,00	R 33 225 600,00	R 24 919 200,00
7	Housing	Precinct 15	2	R 726 752 000,00	R 123 547 840,00	R 145 350 400,00	R 109 012 800,00
8	Housing	Precinct 16	2	R 7 112 000,00	R 1 209 040,00	R 1 422 400,00	R 1 066 800,00
9	Housing	Precinct 17	2	R 120 740 400,00	R 20 525 868,00	R 24 148 080,00	R 18 111 060,00
10	Housing	Precinct 18	2	R 380 787 000,00	R 64 733 790,00	R 76 157 400,00	R 57 118 050,00
11	Housing	Precinct 19	2	R 291 350 400,00	R 49 529 568,00	R 58 270 080,00	R 43 702 560,00
12	Housing	Precinct 20	2	R 117 777 000,00	R 20 022 090,00	R 23 555 400,00	R 17 666 550,00
13	Housing	Precinct 21	2	R 156 571 800,00	R 26 617 206,00	R 31 314 360,00	R 23 485 770,00
14	Housing	Precinct 22	2	R 36 264 000,00	R 6 164 880,00	R 7 252 800,00	R 5 439 600,00
TOTAL							

(Refer to Pages 160-161 for Housing Precincts)

HERITAGE

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Heritage	Wolhuter Hostel Exhibition	2	R 1 500 000,00	R 255 000,00	R 300 000,00	R 225 000,00
2	Heritage	Blue Plaques	2	R 500 000,00	R 85 000,00	R 100 000,00	R 75 000,00
3	Heritage	Acquisition & adaptive reuse of St Andrews, Fairview	2	R 4 000 000,00	R 680 000,00	R 800 000,00	R 600 000,00
TOTAL							

PARKS

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Parks	Murray Park Upgrade	2	R 4 000 000,00	R 680 000,00	R 800 000,00	R 600 000,00
2	Parks	Abe Bailey Park Upgrade	2	R 3 500 000,00	R 595 000,00	R 700 000,00	R 525 000,00
3	Parks	Kazerne Park	2	R 3 000 000,00	R 510 000,00	R 600 000,00	R 450 000,00
4	Parks	Wolhuter Hostel Park	2	R 1 500 000,00	R 255 000,00	R 300 000,00	R 225 000,00
5	Parks	Highgate Street Park (Jeppestown)	2	R 2 000 000,00	R 340 000,00	R 400 000,00	R 300 000,00
6	Parks	Concession Street Park (Jeppestown)	2	R 1 500 000,00	R 255 000,00	R 300 000,00	R 225 000,00
7	Parks	Denver Park	2	R 1 500 000,00	R 255 000,00	R 300 000,00	R 225 000,00
TOTAL							

HEALTH

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Health	New Clinic, Denver	2	R 12 000 000,00	R 2 040 000,00	R 2 400 000,00	R 1 800 000,00
2	Health	New Clinic, Kazerne	3	R 12 000 000,00	R 2 040 000,00	R 2 400 000,00	R 1 800 000,00
TOTAL							

COMMUNITY DEVELOPMENT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Com Dev	New Library, Kazerne	2	R 5 000 000,00	R 850 000,00	R 1 000 000,00	R 750 000,00
2	Com Dev	Upgrade to Murray Park Library	2	R 4 000 000,00	R 680 000,00	R 800 000,00	R 600 000,00
3	Com Dev	Upgrade to Murray Park Swimming Pool	2	R 6 000 000,00	R 1 020 000,00	R 1 200 000,00	R 900 000,00
4	Com Dev	New Community Centre, Kazerne	2	R 15 000 000,00	R 2 550 000,00	R 3 000 000,00	R 2 250 000,00
TOTAL							

SCHOOLS

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	School	New Bertha Solomon Primary School	2	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
2	School	New Denver Primary School	2	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
3	School	New Wolhuter Primary School	2	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
4	School	New Highgate Street Primary School	2	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
5	School	New Kazerne Primary School	2	R 8 000 000,00	R 1 360 000,00	R 1 600 000,00	R 1 200 000,00
TOTAL							

ROADS AND TRANSPORT

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Roads/Bridges	Ford Street/Jules Street Bridge widening	2	R 5 000 000,00	R 850 000,00	R 1 000 000,00	R 750 000,00
2	Roads/Bridges	George Goch Bridge	2	R 3 000 000,00	R 510 000,00	R 600 000,00	R 450 000,00
3	Roads/Bridges	Denver Bridge	2	R 4 000 000,00	R 680 000,00	R 800 000,00	R 600 000,00
4	Roads Upgrades	Phase 2	2	R 7 392 434,70	R 1 256 713,90	R 1 478 486,94	R 1 108 865,21
TOTAL							

ENGINEERING SERVICES

Project Number	Type of Project	Name of Project	Phase	Construction Value	P&Gs @ 17%	Contingency @ 20%	Escalation @ 15%
1	Stormwater Upgrades	Phase 2	2	R 446 797,65	R 75 955,60	R 89 359,53	R 67 019,65
2	Water Upgrades	Phase 2	2	R 9 871 811,76	R 1 678 208,00	R 1 974 362,35	R 1 480 771,76
3	Sewer Upgrades	Phase 2	2	R 14 931 319,41	R 2 538 324,30	R 2 986 263,88	R 2 239 697,91
4	Electricity Upgrades	Phase 2	2	R 42 181 518,82	R 7 170 858,20	R 8 436 303,76	R 6 327 227,82
TOTAL							

TOTAL PHASE 2 & 3

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 1 420 092,00	R 13 411 980,00	R 1 877 677,20	R 15 289 657,20	R 0,00	**R 15 289 657,20**	JRA/JDA	2018/07/01	2020/06/30
R 1 398 708,00	R 13 210 020,00	R 1 849 402,80	R 15 059 422,80	R 0,00	**R 15 059 422,80**	JRA/JDA	2018/07/01	2020/06/30
R 340 200,00	R 3 213 000,00	R 449 820,00	R 3 662 820,00	R 0,00	**R 3 662 820,00**	JRA/JDA	2035/07/01	2037/06/30
R 597 780,00	R 5 645 700,00	R 790 398,00	R 6 436 098,00	R 0,00	**R 6 436 098,00**	JRA/JDA	2026/07/01	2027/06/30
R 520 992,00	R 4 920 480,00	R 688 867,20	R 5 609 347,20	R 0,00	**R 5 609 347,20**	JRA/JDA	2029/07/01	2030/06/30
R 616 248,00	R 5 820 120,00	R 814 816,80	R 6 634 936,80	R 0,00	**R 6 634 936,80**	JRA/JDA	2030/07/01	2031/06/30
R 681 372,00	R 6 435 180,00	R 900 925,20	R 7 336 105,20	R 0,00	**R 7 336 105,20**	JRA/JDA	2030/07/01	2031/06/30
R 708 588,00	R 6 692 220,00	R 936 910,80	R 7 629 130,80	R 0,00	**R 7 629 130,80**	JRA/JDA	2024/07/01	2028/06/30
R 425 250,00	R 4 016 250,00	R 562 275,00	R 4 578 525,00	R 0,00	**R 4 578 525,00**	JRA/JDA	2018/07/01	2020/06/30
R 439 830,00	R 4 153 950,00	R 581 553,00	R 4 735 503,00	R 0,00	**R 4 735 503,00**	JRA/JDA	2018/07/01	2020/06/30
R 298 080,00	R 2 815 200,00	R 394 128,00	R 3 209 328,00	R 0,00	**R 3 209 328,00**	JRA/JDA	2022/07/01	2037/06/30
R 234 090,00	R 2 210 850,00	R 309 519,00	R 2 520 369,00	R 0,00	**R 2 520 369,00**	JRA/JDA	2020/07/01	2021/06/30
R 529 740,00	R 5 003 100,00	R 700 434,00	R 5 703 534,00	R 0,00	**R 5 703 534,00**	JRA/JDA	2025/07/01	2027/06/30
R 205 740,00	R 1 943 100,00	R 272 034,00	R 2 215 134,00	R 0,00	**R 2 215 134,00**	JRA/JDA	2027/07/01	2028/06/30
R 629 370,00	R 5 944 050,00	R 832 167,00	R 6 776 217,00	R 0,00	**R 6 776 217,00**	JRA/JDA	2018/07/01	2020/06/30
R 400 950,00	R 3 786 750,00	R 530 145,00	R 4 316 895,00	R 0,00	**R 4 316 895,00**	JRA/JDA	2028/07/01	2030/06/30
R 383 130,00	R 3 618 450,00	R 506 583,00	R 4 125 033,00	R 0,00	**R 4 125 033,00**	JRA/JDA	2035/07/01	2037/06/30
R 157 950,00	R 1 491 750,00	R 208 845,00	R 1 700 595,00	R 0,00	**R 1 700 595,00**	JRA/JDA	2030/07/01	2031/06/30
R 3 611 628,00	R 34 109 820,00	R 4 775 374,80	R 38 885 194,80	R 0,00	**R 38 885 194,80**	JRA/JDA	2032/07/01	2037/06/30
R 36 288,00	R 342 720,00	R 47 980,80	R 390 700,80	R 0,00	**R 390 700,80**	JRA/JDA	2020/07/01	2021/06/30
R 368 064,00	R 3 476 160,00	R 486 662,40	R 3 962 822,40	R 0,00	**R 3 962 822,40**	JRA/JDA	2036/07/01	2037/06/30
R 1 875 960,00	R 17 717 400,00	R 2 480 436,00	R 20 197 836,00	R 0,00	**R 20 197 836,00**	JRA/JDA	2036/07/01	2037/06/30
R 1 283 040,00	R 12 117 600,00	R 1 696 464,00	R 13 814 064,00	R 0,00	**R 13 814 064,00**	JRA/JDA	2036/07/01	2037/06/30
					R 184 789 269,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 1 589 544,00	R 15 012 360,00	R 2 101 730,40	R 17 114 090,40	R 0,00	**R 17 114 090,40**	JoSHCo	2022/07/01	2024/06/30
R 10 652 796,00	R 100 609 740,00	R 14 085 363,60	R 114 695 103,60	R 0,00	**R 114 695 103,60**	JoSHCo	2022/07/01	2025/06/30
R 5 196 312,00	R 49 076 280,00	R 6 870 679,20	R 55 946 959,20	R 0,00	**R 55 946 959,20**	JoSHCo	2022/07/01	2025/06/30
R 8 446 680,00	R 79 774 200,00	R 11 168 388,00	R 90 942 588,00	R 0,00	**R 90 942 588,00**	JoSHCo	2022/07/01	2025/06/30
R 6 251 256,00	R 59 039 640,00	R 8 265 549,60	R 67 305 189,60	R 0,00	**R 67 305 189,60**	JoSHCo	2022/07/01	2024/06/30
R 29 903 040,00	R 282 417 600,00	R 39 538 464,00	R 321 956 064,00	R 0,00	**R 321 956 064,00**	JoSHCo	2026/07/01	2029/06/30
R 130 815 360,00	R 1 235 478 400,00	R 172 966 976,00	R 1 408 445 376,00	R 0,00	**R 1 408 445 376,00**	JoSHCo	2022/07/01	2037/06/30
R 1 280 160,00	R 12 090 400,00	R 1 692 656,00	R 13 783 056,00	R 0,00	**R 13 783 056,00**	JoSHCo	2026/07/01	2028/06/30
R 21 733 272,00	R 205 258 680,00	R 28 736 215,20	R 233 994 895,20	R 0,00	**R 233 994 895,20**	JoSHCo	2024/07/01	2027/06/30
R 68 541 660,00	R 647 337 900,00	R 90 627 306,00	R 737 965 206,00	R 0,00	**R 737 965 206,00**	JoSHCo	2022/07/01	2030/06/30
R 52 443 072,00	R 495 295 680,00	R 69 341 395,20	R 564 637 075,20	R 0,00	**R 564 637 075,20**	JoSHCo	2030/07/01	2037/06/30
R 21 199 860,00	R 200 220 900,00	R 28 030 926,00	R 228 251 826,00	R 0,00	**R 228 251 826,00**	JoSHCo	2025/07/01	2028/06/30
R 28 182 924,00	R 266 172 060,00	R 37 264 088,40	R 303 436 148,40	R 0,00	**R 303 436 148,40**	JoSHCo	2026/07/01	2031/06/30
R 6 527 520,00	R 61 648 800,00	R 8 630 832,00	R 70 279 632,00	R 0,00	**R 70 279 632,00**	JoSHCo	2022/07/01	2025/06/30
					R 4 228 753 209,60			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 270 000,00	R 2 550 000,00	R 357 000,00	R 2 907 000,00	R 0,00	**R 2 907 000,00**	CoJACH	2028/07/01	2030/06/30
R 90 000,00	R 850 000,00	R 119 000,00	R 969 000,00	R 0,00	**R 969 000,00**	CoJACH	2017/07/01	2022/06/30
R 720 000,00	R 6 800 000,00	R 952 000,00	R 7 752 000,00	R 0,00	**R 7 752 000,00**	JDA	2018/07/01	2021/06/30
					R 11 628 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 720 000,00	R 6 800 000,00	R 952 000,00	R 7 752 000,00	R 0,00	**R 7 752 000,00**	JCP/JDA	2018/07/01	2020/06/30
R 630 000,00	R 5 950 000,00	R 833 000,00	R 6 783 000,00	R 0,00	**R 6 783 000,00**	JCP/JDA	2030/07/01	2032/06/30
R 540 000,00	R 5 100 000,00	R 714 000,00	R 5 814 000,00	R 0,00	**R 5 814 000,00**	JCP/JDA	2035/07/01	2037/06/30
R 270 000,00	R 2 550 000,00	R 357 000,00	R 2 907 000,00	R 0,00	**R 2 907 000,00**	JCP/JDA	2027/07/01	2028/06/30
R 360 000,00	R 3 400 000,00	R 476 000,00	R 3 876 000,00	R 0,00	**R 3 876 000,00**	JCP/JDA	2028/07/01	2030/06/30
R 270 000,00	R 2 550 000,00	R 357 000,00	R 2 907 000,00	R 0,00	**R 2 907 000,00**	JCP/JDA	2035/07/01	2037/06/30
R 270 000,00	R 2 550 000,00	R 357 000,00	R 2 907 000,00	R 0,00	**R 2 907 000,00**	JCP/JDA	2030/07/01	2031/06/30
					R 32 946 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 2 160 000,00	R 20 400 000,00	R 2 856 000,00	R 23 256 000,00	R 0,00	**R 23 256 000,00**	Health/JDA	2026/07/01	2028/06/30
R 2 160 000,00	R 20 400 000,00	R 2 856 000,00	R 23 256 000,00	R 0,00	**R 23 256 000,00**	Health/JDA	2022/07/01	2024/06/30
					R 46 512 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 900 000,00	R 8 500 000,00	R 1 190 000,00	R 9 690 000,00	R 0,00	**R 9 690 000,00**	ComDev/JDA	2022/07/01	2024/06/30
R 720 000,00	R 6 800 000,00	R 952 000,00	R 7 752 000,00	R 0,00	**R 7 752 000,00**	ComDev/JDA	2018/07/01	2020/06/30
R 1 080 000,00	R 10 200 000,00	R 1 428 000,00	R 11 628 000,00	R 0,00	**R 11 628 000,00**	ComDev/JDA	2018/07/01	2020/06/30
R 2 700 000,00	R 25 500 000,00	R 3 570 000,00	R 29 070 000,00	R 0,00	**R 29 070 000,00**	ComDev/JDA	2022/07/01	2024/06/30
					R 58 140 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2022/07/01	2025/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2026/07/01	2028/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2025/07/01	2027/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2022/07/01	2024/06/30
R 1 440 000,00	R 13 600 000,00	R 1 904 000,00	R 15 504 000,00	R 0,00	**R 15 504 000,00**	GDE	2022/07/01	2025/06/30
					R 77 520 000,00			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 900 000,00	R 8 500 000,00	R 1 190 000,00	R 9 690 000,00	R 0,00	**R 9 690 000,00**	JRA	2024/07/01	2026/06/30
R 540 000,00	R 5 100 000,00	R 714 000,00	R 5 814 000,00	R 0,00	**R 5 814 000,00**	JRA	2030/07/01	2032/06/30
R 720 000,00	R 6 800 000,00	R 952 000,00	R 7 752 000,00	R 0,00	**R 7 752 000,00**	JRA	2026/07/01	2029/06/30
R 1 330 638,25	R 12 567 139,00	R 1 759 399,46	R 14 326 538,46	R 0,00	**R 14 326 538,46**	JRA	2022/07/01	2037/06/30
					R 37 582 538,46			

Prof Fees @ 18%	SUB-TOTAL	VAT @ 14%	SUB-TOTAL	Land Costs	TOTAL	Responsibility	Start Date	End Date
R 80 423,58	R 759 556,00	R 106 337,84	R 865 893,84	R 0,00	**R 865 893,84**	JRA	2022/07/01	2037/06/30
R 1 776 926,12	R 16 782 080,00	R 2 349 491,20	R 19 131 571,20	R 0,00	**R 19 131 571,20**	JW	2022/07/01	2037/06/30
R 2 687 637,49	R 25 383 242,99	R 3 553 654,02	R 28 936 897,01	R 0,00	**R 28 936 897,01**	JW	2022/07/01	2037/06/30
R 7 592 673,39	R 71 708 581,99	R 10 039 201,48	R 81 747 783,46	R 0,00	**R 81 747 783,46**	City Power	2022/07/01	2037/06/30
					R 130 682 145,51			

R4 808 553 162,57

Figure 179 : Priority Projects - Projected Costs and Timeline (Phase 2 & 3)

10.2. Phasing and Programme - Phase 1 Projects

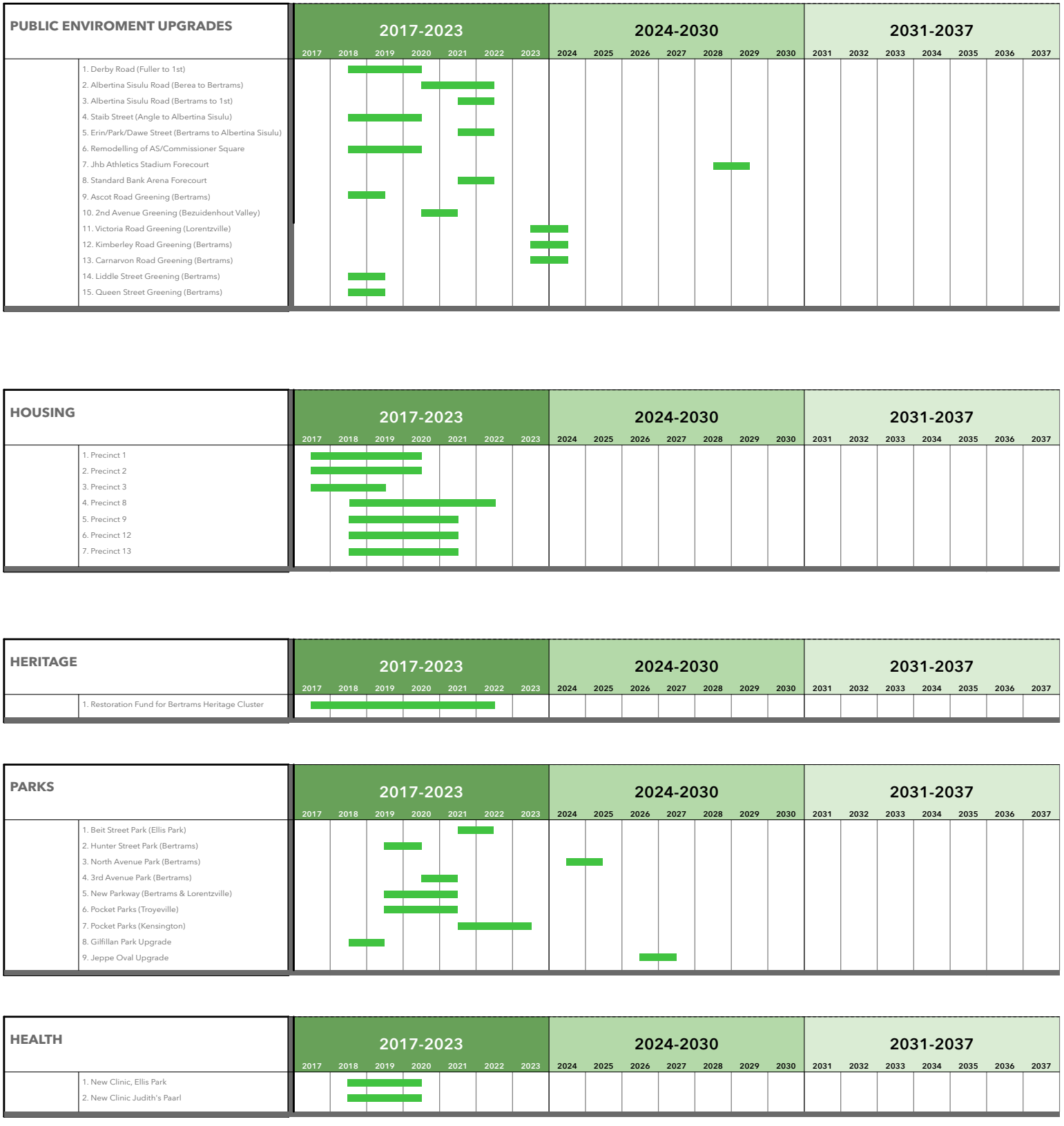
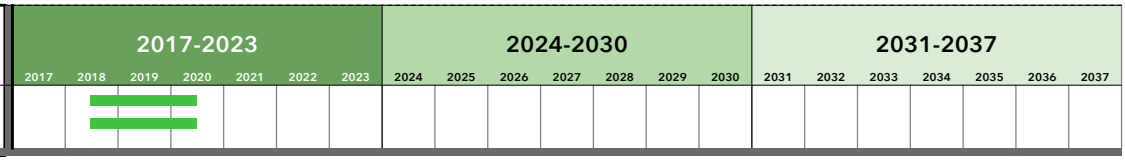
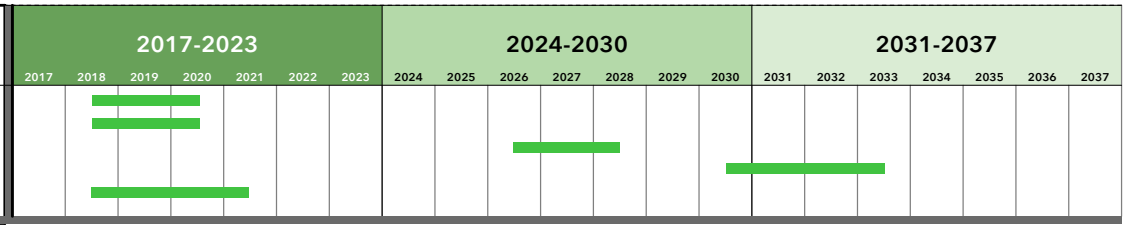


Figure 180 : Phasing and Programme (Phase 1)

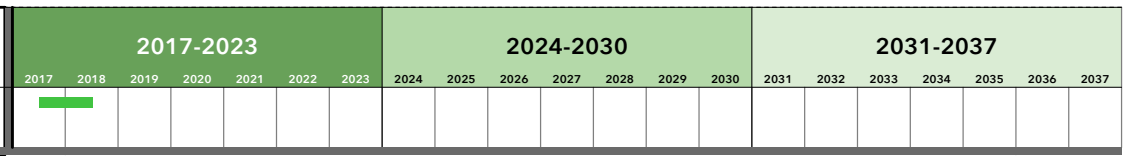
COMMUNITY DEVELOPMENT



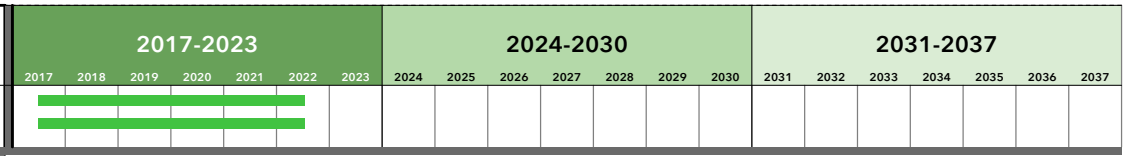
SCHOOLS



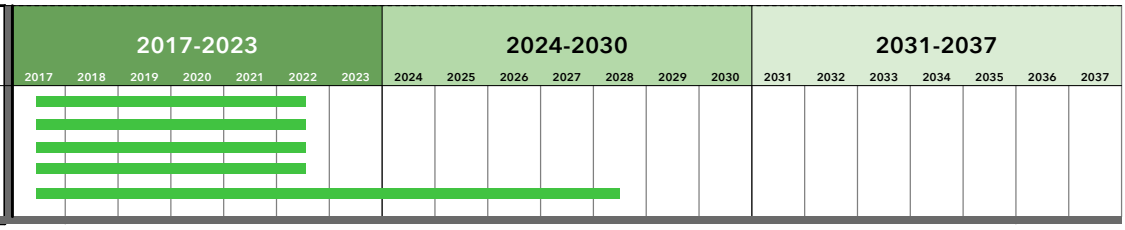
POLICE SERVICES



ROADS AND TRANSPORT



ENGINEERING SERVICES



10.2. Phasing and Programme - Phase 2 & 3 Projects

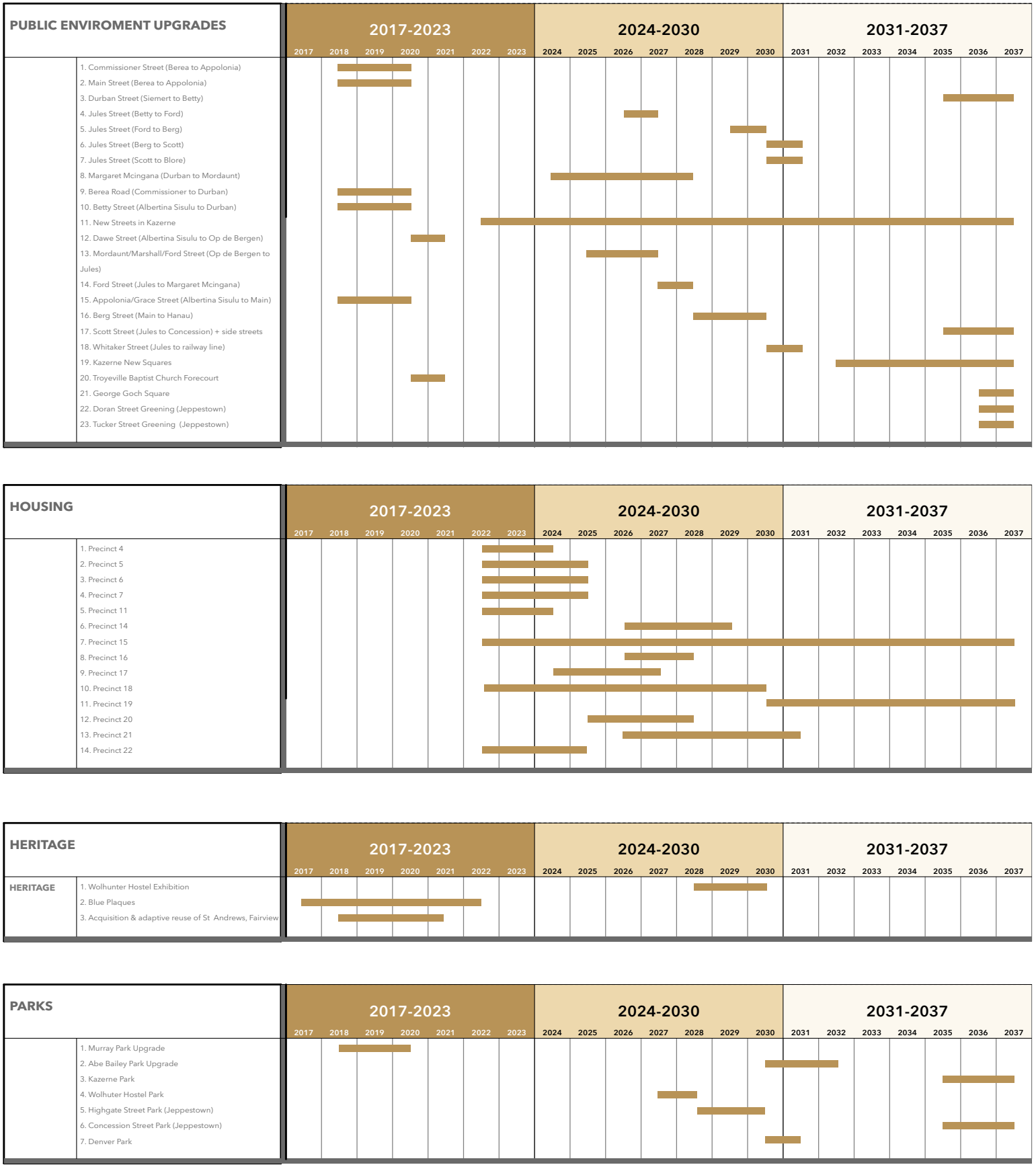
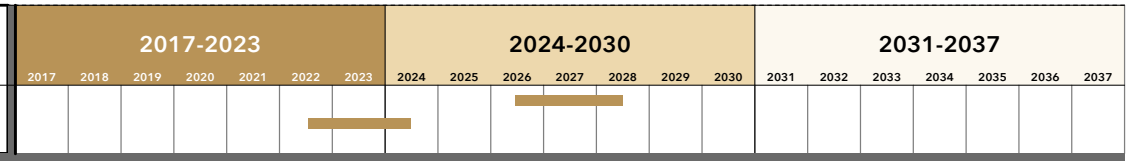
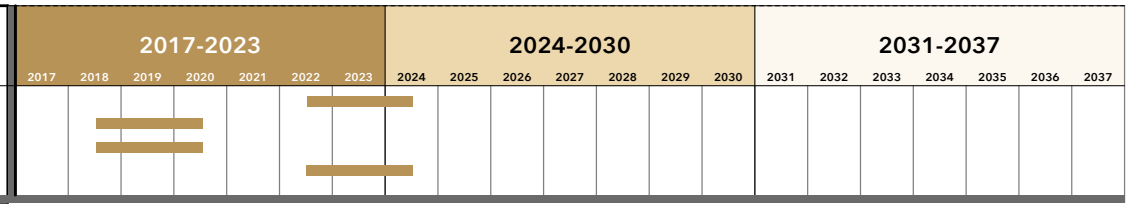


Figure 181 : Phasing and Programme (Phase 2 & 3)

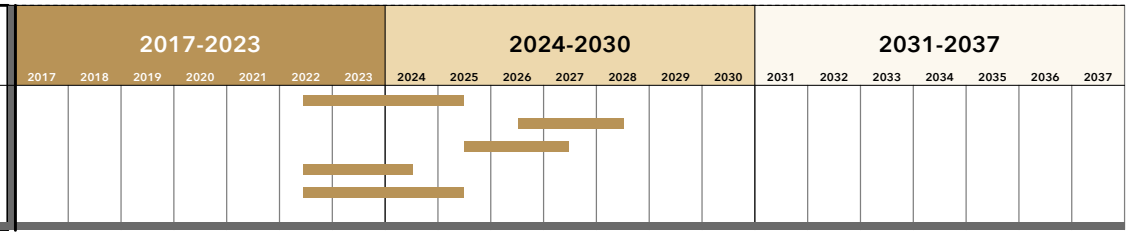
HEALTH



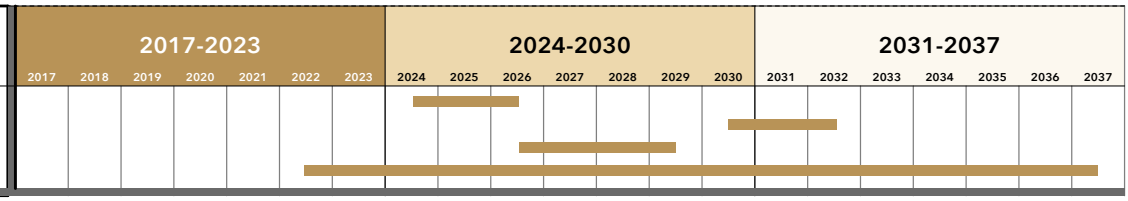
COMMUNITY DEVELOPMENT



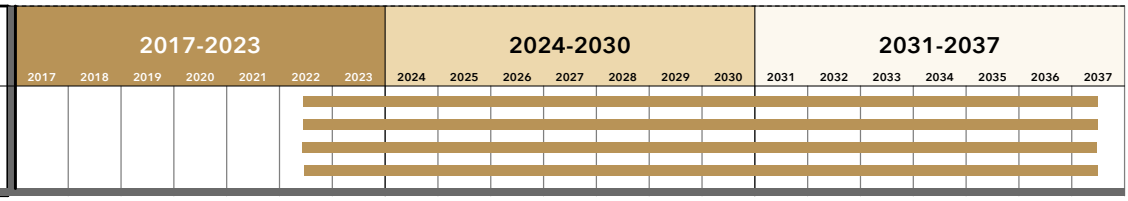
SCHOOLS



ROADS AND TRANSPORT



ENGINEERING SERVICES



10.3. Urban Management & Maintenance Proposals

Issues linked to perceived or actual shortcomings around urban management and maintenance of infrastructure were among those most frequently raised during engagements with stakeholders. Prompted by this feedback, and integrating the additional management and maintenance requirements of proposed priority projects, the following schedule contains a checklist of action items and proposals by sector and City of Johannesburg utility/department.

City of Johannesburg, Department of Housing
•The short-term need for better management and maintenance of City-managed housing developments, such as those on Frere Road in Bertrams and the Julius Jeppe Estate in Jeppestown, was frequently flagged by stakeholders, as several of these developments have fallen into disrepair and become crime hotspots and drug d
•T ransfer of these residential developments to JOSHCO or sale to private sector affordable housing operators is recommended in the longer term.

City Power
• Prioritisation of continuous lighting of key upgraded streets identified in the UDF is proposed as a key safety and security intervention;
• Standardisation of Street Light Poles, Light Fittings and Light Bollards for ease of re-ordering and replacement is recommended;
• Inclusion of attic stock supply in Bills of Quantity at tender stage of all Public Environment Upgrade projects is recommended.

Johannesburg City Parks
• Specification of appropriate plant species, geared to maintenance capacity as per JCP policy is recommended;
• Specification of indigenous plant species, with low or minimal irrigation requirements as per JCP policy is recommended;
• Standardisation of robust, low maintenance furniture elements (benches, bins, bollards etc.) for ease of re-ordering and replacement is recommended.

Johannesburg Metro Police Department (JMPD)
• Crime prevention initiatives needed around known crime hotspots and drug dens, several of which are located in City-managed housing developments and City-owned vacant sites, is required;
• Visible policing patrols needed in partnership with SAPS, with special focus on key upgraded streets identified in the UDF;
• Greater impetus around by-law enforcement needed with regard to planning/land-use by-laws, noise control, and informal trading.

Johannesburg Property Company
• City-owned vacant sites which are currently being informally occupied, used for illicit purposes or for fly tipping should be securely fenced off in the short-term and developed or sold in the longer term.

Johannesburg Roads Agency (JRA)
• Standardisation of robust, low maintenance furniture elements (benches, bins, bollards etc.) for ease of re-ordering and replacement is recommended;
• Specification of pavers as per approved palette of materials defined in 2009 JDA Paving Study;
• Inclusion of attic stock supply in Bills of Quantity at tender stage of all Public Environment Upgrade projects is recommended;
•A Long-term Stormwater Plan needed, geared to increased building footprint envisaged in terms of UDF proposals.

Johannesburg Water
•A Long-term Bulk Water Infrastructure Plan needed, geared to increased bulk area envisaged in terms of UDF proposals;
•A Long-term Bulk Sewer Infrastructure Plan needed, geared to increased bulk area envisaged in terms of UDF proposals.

Pikitup
•Standardisation of robust, low maintenance refuse bins, as per Pikitip approved design;
•Inclusion of attic stock supply in Bills of Quantity at tender stage of all Public Environment Upgrade projects is recommended;
•More frequent street cleaning regime on key upgraded streets identified in the UDF;
•Installation of Sisonke underground refuse bins in informal trading locations, such as the vicinity of Jeppe and George Goch Stations.

ANNEXURES

A. ENGINEERING SERVICES REPORT

A.1 STATUS QUO
A.2 HIGH-LEVEL PRELIMINARY BUDGETS
A.3 RECOMMENDATIONS
A.4. BULK CONTRIBUTIONS SUMMARY

A.1. ENGINEERING SERVICES REPORT - STATUS QUO

Services Status Quo

A study of available information as well as interviews with relevant officials in the various services authorities has provided the basis for the Engineering Services Status Quo report contained in this section. The findings are summarised in the attached schedule and include, where possible and as allowed by the information available, communication of any relevant planning to improve the current situation.

At the time of conducting interviews with the municipal officials the principal of densification was discussed however the current proposals, which identify particular properties was not known at that time. While there may be certain issues which relate specifically to the siting of the proposed densification, the principle of the capacity of the services networks has not materially altered from the assumptions which were made earlier. Original discussions were about the possibility of 20,000 additional dwelling units and the number has now been set at approximately 18,000 dwelling units.

The resilience of the infrastructure will require attention. By resilience it is meant that note has to be taken of the degree to which a system can continue to function effectively in a changing environment. In this case the change is intentional and not necessarily aimed at catastrophic natural events.

Several significant factors have emerged:

Sewer capacity

- The existing local system apparently copes with current flows quite adequately.
- Given the densification assumed significant areas would require an upgrade to cope with projected flows
- The Study area is at the head of the Bruma Catchment and the latest available projection (to 2015) assumes less additional units (approx. 8000) than the projected densification within the study area. A further study is proposed towards the end of 2016 and agreed factors relating to the Eastern Gateway Area should be included in that study.
- The fact that the urban improvement is likely to take place in phases does not materially affect the longer-term impact on the sewer system however improvements related to particular sites will obviously only be considered when the sites are projected for development.
- The proposed revision of the network studies (2016) will undoubtedly take both the short term (0-5 years) and the longer term (6-15 years) scenarios into account because while the short term proposals may well be accommodated in the existing sewer outfalls it is unlikely that the existing system will be able to cater for longer-term flows.
- The long term projected efficient flow from the proposed densification is 19.5ml (85% of the projected water demand). Due to the relatively small area involved in the densification current flow is ignored here.

Water Capacity

- There are currently problem areas within the reticulation of the Study Area. Details are available on plans produced by GLS on behalf of Johannesburg Water in studies in 2009/2010
- Partial upgrading of problematic areas was projected to occur before 2015, but projected allowance for densification has assumed as less than 1000 additional users, whereas the current projection into this Study is for approximately 18,000 additional households and over 40 000 additional users.
- Based on the proposed densification it is envisaged that reservoir capacity will have to be increased by a total of approximately 23Ml to serve the study area
- Given the current proposal of a short-term (0-5 years) and a longer term (6-15 years) development programme is possible that interim solutions will be implemented
- It is important that the current design proposals be incorporated in the review of the supply situation which is proposed for the second part of 2016.

Roads

• Roads within the study area are currently coping with traffic volumes, however it is possible that movement is being restricted because of the inadequacy of the road system and therefore it is probable that the actual demand capacity is not being met.
• The upgrade of existing roads will undoubtedly increase capacity, but a study is required by Johannesburg Roads Agency
• The current proposal focuses the densification to a number of defined nodes (approximately 20) and transportation requirements arising from the additional dwelling units will inform both the provision of public transport as well as amendments for pedestrians, non-motorised transport and vehicular traffic.
• Immediately in the vicinity of the densification nodes, and in particular adjacent to the larger ones, local improvements for the accommodation and control of traffic will undoubtedly be necessary. In addition accommodation of minibus taxis and potential bus or BRT movements will have to be considered.
• There are no immediate plans to improve or upgrade existing roads within the study (see notes on Transportation below).
• The proposed "double decking" of Joe Slovo" will have a large impact on the Western most side of the study area and off ramps off it. City of Johannesburg Transportation and JRA will need to conduct further studies to fully understand the impact of this new infrastructure.

Stormwater

• The current stormwater reticulation system is coping with flows being experienced. There is however anecdotal evidence that localised flooding occurs, probably as a result of a lack of stormwater maintenance and attenuation
• An analysis of the existing stormwater pipe system is required.
• In order to improve the resilience of the infrastructure in the study area, and in the catchment within which it falls, stormwater management needs special attention.
• The change from general densification to more focused development nodes is unlikely to result in an increased flow, and indeed, may result in the reduction of the stormwater upgrade and the concentration of necessary upgrades in around the development nodes.
• Attenuation is almost completely lacking and any study will have taken such facilities into account.

Electricity

• There is a spare capacity of 30 MVA in the Substation at the corner of Joe Slovo Drive and Curry Road. This capacity is currently un- allocated.
• There are no immediate plans to upgrade the reticulation within the area.
• Given the relative concentration of the densification (approximately 20 nodes) the distribution of electricity is somewhat simplified in that medium voltage cables connecting the Substation to the development nodes will be required as opposed to a general reticulation re-enforcement.
• The study identifies a need for approximately 33Mva in total.

ICT

• There is a government-sponsored nationwide objective to increase mobile broadband coverage to at least 80% of the population by 2019. Within the general scope of this study enquiries have been made as to the viability of upgrading the communications facilities in the study area. Johannesburg Metro has plans to improve Internet access, but, since the current proposal has not been included in that planning, it cannot be confirmed that specific solutions have been provided for the study area.
• The introduction of broadband coverage will improve communication to and amongst the population, but will also provide business opportunity linked to Internet access.
• Enquiries reveal that, on the understanding that the densification will take place in the relatively concentrated way (approximately 20 nodes), the provision of both improved cellular communication and Internet access will be relatively straightforward.
• A service provider (Vodacom) indicates that improving coverage for cell phone reception would require dedicated fibre which could be used for the ''back haul'' of data (internet). There is therefore a synergy of upgrading ICT services, but still at a cost.
• Given the area and the number of potential users, an additional 4-5 base stations would be required.
• If Wi-Fi was required (free or otherwise) a wireless network would be required.
• The service provider would supply the network on condition that a single contract was entered into for the internet connectivity (say 500 megabytes of data on an individually uncapped basis). The assumption is that Johannesburg Metro would fund this (about R600 000 per month).

Conclusion

The fact that at least two significant Joburg Water studies are proposed in the near future is an important consideration. One of the studies relates to storm water and the other to a review of the water and sewer capacity. The findings of this Study need to be communicated to the relevant Service Providers so that any study undertaken takes Eastern Gateway proposals into account.

No single contra-indication related to the possibility of densification was noted. However there will undoubtedly be financial (and technical) consequences arising from densification where existing services are already near or under capacity.

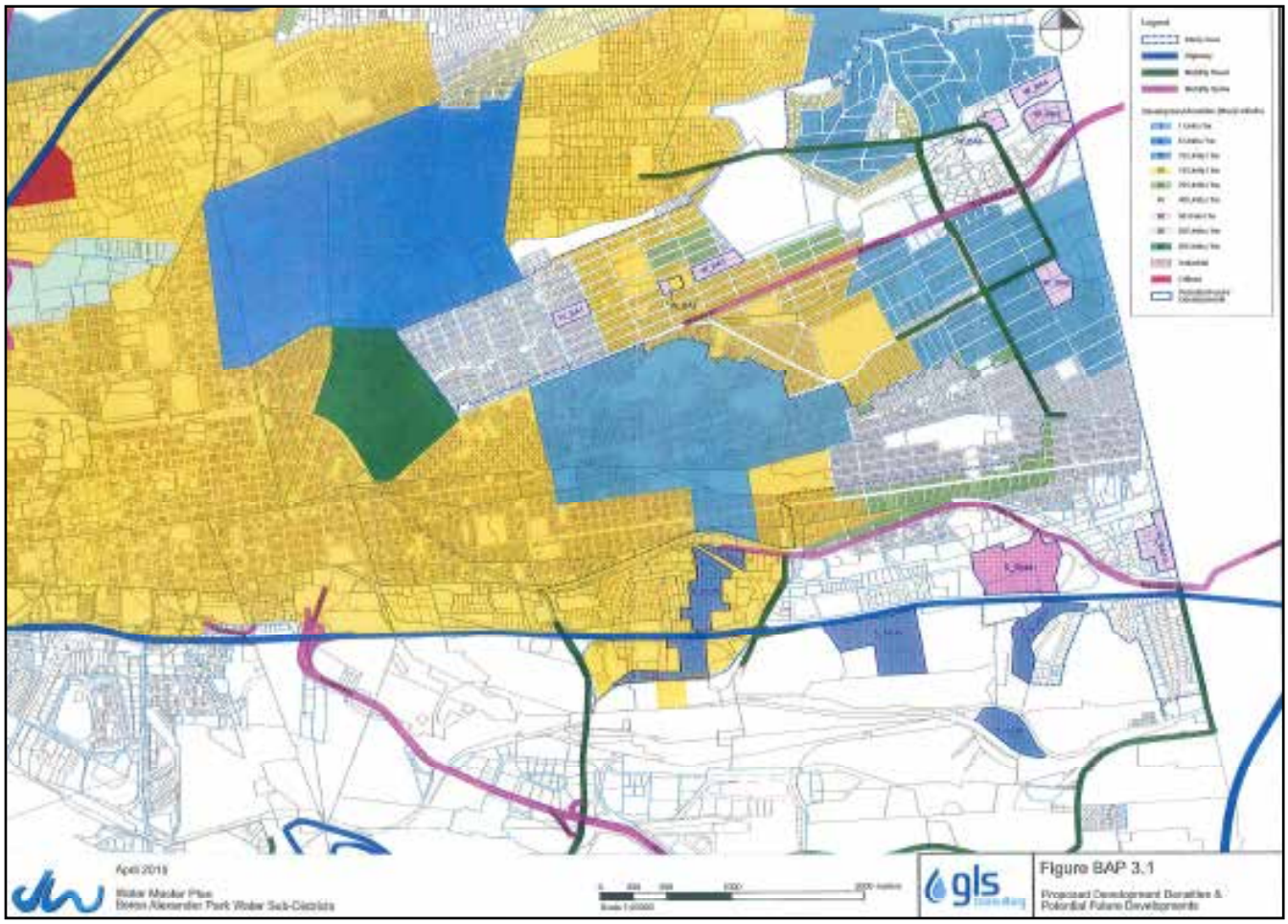


Figure 182 : Service Status Quo 1

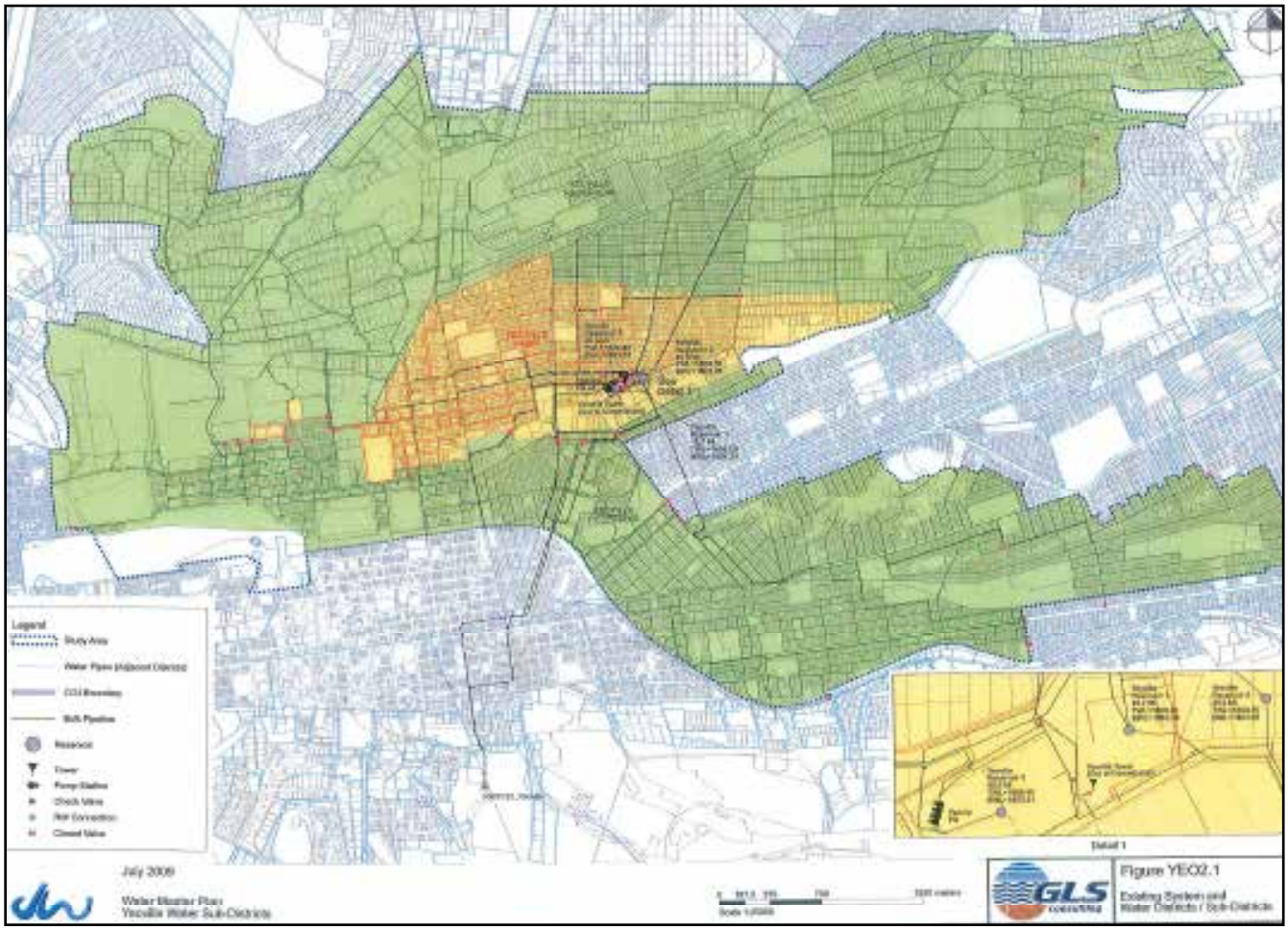


Figure 183 : Service Status Quo 2

A.2.HIGH-LEVEL PRELIMINARY BUDGETS

The firming up of the development proposals has allowed for an exercise relating to costs to be undertaken. Since the proposed development would take place in relatively small and concentrated areas the need for local reticulation is dramatically reduced. We have therefore made assumptions on the basis that it will be mainly the major reticulation and access routes which will have to be upgraded and have assumed the costs will become comparable with the contributions which would normally be payable to the Service Departments in terms of "bulk contributions" applicable to any development.

Although as clearly indicated the sites for development identified in the proposals will be city lead. As such these amounts should be used only as guide for departmental planning and budgeting in terms of the Infrastructure required to support these proposals. It is also important to note that the land use rights in the study area are extensive and it is highly unlikely that the City will generate much income through contributions, as triggered by rezoning processes.

This exercise has led to the creation of the matrix of assumptions and costs. The estimates provided can only be regarded as indicative and very high level, but are provided to give some indication as to the level of costs associated with the upgrading of infrastructure required for the proposed densification. As a guide the estimates in that provision for upgrading should be of the order of R700 per square metre of building constructed.

All of the calculations are In terms of standard formula, applied by City of Johannesburg, which have been adapted slightly. Without going into a detailed design of what upgrades would actually have be constructed we believe that this is a realistic approximation to what things could cost.

The spreadsheet below provides a summary of the assumptions made and the quantum of **"contributions"** usually payable to various service departments , however to be borne by the City in this instance, as the primary developer of the sites.

Contributions (Escalated)	
Residential	
Water	R 21 808 947
Sewer	R 32 986 484
Roads	R 12 576 425
Stormwater	R 976 689
Electricity	R 99 211 721
Parks	R 271 255 560
Total	**R 438 815 827**
Non Residential (commercial/business)	
Water	R 1 832 262
Sewer	R 2 771 335
Roads	R 5 071 675
Stormwater	R 60 240
Electricity	R 1 894 363
Parks	R -
Total	**R 11 629 876**
Grand Total	**R 450 445 703**

Broadly framed recommendations in relation to each of the services discussed above.

A.3. RECOMMENDATIONS

Sewer and Water
The proposals contained in the current study must be communicated to Johannesburg Water with a view to them being included in the next iteration of the Master Plan for the Sewer System in the Bruma Outfall Sewer Basin. Detailed design can only be carried out once the development of specific nodes has been agreed upon, however it is noted that the "lead time" for the upgrade of major systems is in all probability several years and preliminary work needs to be initiated immediately following acceptance of general policy relating to proposed densification.

Roads
The proposals contained in the current study must be communicated to Johannesburg Roads Agency with a view to them being included in any future planning for road upgrade in the study area. Specific attention needs to be drawn to the densification nodes identified in this study.

Once agreement in principle has been reached regarding the location and timing of the development of the proposed nodes detailed design must be commenced with a view to matching road upgrade with the completion of densification.

Stormwater
The proposals contained in the current study must be communicated to Johannesburg Roads Agency with a view to them being included in any future planning for stormwater upgrade in the study area. In particular the recent Study on behalf of JRA needs to be reviewed in the light of the subject development proposals.

The introduction of attenuation facilities, possibly related to the proposed park network, needs to be fully investigated with a view to reducing peak flows lower down in the catchment.

Electricity
The proposals contained in the current study must be communicated to City Power with a view to them being included in any future planning. The notified spare capacity at the Joe Slovo substation (30MVa) should be reserved for the proposed densification program. Allowance for further upgrades is required.

ICT
The proposals contained in the current study must be communicated to the City of Johannesburg with a view to them being included in any future planning. Further negotiation be pursued with potential service providers with a view to providing a fibre backbone to support the proposed services. Commercial discussions need to be initiated.

A.4.. BULK CONTRIBUTIONS SUMMARY

Phase 1-years 1 to 5

Precinct No	Residential area m2	Dwelling units	Non-residential m2	WATER	SEWER	ROADS	STORMWATER	ELECTRICITY	PARKS	TOTAL
1	21 041	1 014	3 896	R 1 053 492	R 1 593 429	R 772 265	R 34 915	R 4 528 179	R 12 168 000	**R 20 150 280**
2	37 476	1 187	4 627	R 1 234 494	R 1 867 198	R 907 522	R 60 723	R 5 302 046	R 14 244 000	**R 23 615 983**
3	4 303	81	398	R 85 836	R 129 829	R 66 345	R 6 887	R 363 457	R 972 000	**R 1 624 354**
8	45 103	2 170	8 353	R 2 254 788	R 3 410 413	R 1 653 433	R 74 847	R 9 690 764	R 26 040 000	**R 43 124 245**
9	22 052	1 080	4 084	R 1 120 781	R 1 695 205	R 818 984	R 36 593	R 4 821 588	R 12 960 000	**R 21 453 150**
12	16 018	309	1 483	R 326 743	R 494 206	R 251 136	R 25 641	R 1 385 791	R 3 708 000	**R 6 191 516**
13	22 938	736	3 778	R 782 995	R 1 184 296	R 611 277	R 37 768	R 3 305 677	R 8 832 000	**R 14 754 013**
TOTAL	168 931	6 577	26 619	R 6 859 130	R 10 374 576	R 5 080 961	R 277 373	R 29 397 502	R 78 924 000	**R 130 913 542**

Later Phases - years 6-15 (Unescalated)

4	2 256	35	209	R 37 797	R 57 169	R 30 625	R 3 610	R 157 781	R 420 000	**R 706 981**
5	15 662	402	1 934	R 425 160	R 643 064	R 326 934	R 25 377	R 1 802 953	R 4 824 000	**R 8 047 489**
6	8 078	444	1 496	R 457 234	R 691 576	R 326 918	R 13 404	R 1 978 557	R 5 328 000	**R 8 795 690**
7	11 791	615	2 183	R 635 483	R 961 181	R 458 782	R 19 565	R 2 742 794	R 7 380 000	**R 12 197 805**
11	9 473	178	877	R 188 661	R 285 353	R 145 885	R 15 165	R 798 742	R 2 136 000	**R 3 569 806**
14	11	610	2 968	R 645 802	R 976 789	R 497 917	R 26 598	R 2 736 506	R 7 320 000	**R 12 203 613**
15	12	4 600	18 375	R 4 792 644	R 7 248 973	R 3 540 707	R 164 657	R 20 555 981	R 55 200 000	**R 91 502 962**
16	13	60	356	R 64 750	R 97 935	R 52 375	R 4 667	R 270 434	R 720 000	**R 1 210 161**
17	14	582	3 005	R 619 494	R 936 998	R 484 294	R 39 435	R 2 614 344	R 6 984 000	**R 11 678 565**
18	15	951	4 589	R 1 006 082	R 1 521 720	R 774 228	R 60 234	R 4 265 498	R 11 412 000	**R 19 039 761**
19	15	1 477	6 612	R 1 552 593	R 2 348 329	R 1 174 900	R 86 777	R 6 614 460	R 17 724 000	**R 29 501 058**
20	16	452	1 463	R 464 322	R 702 296	R 329 623	R 25 293	R 2 013 017	R 5 424 000	**R 8 958 550**
21	17	1 023	4 214	R 1 068 298	R 1 615 823	R 794 219	R 55 300	R 4 574 010	R 12 276 000	**R 20 383 651**
22	18	270	1 600	R 291 373	R 440 708	R 235 687	R 14 339	R 1 216 954	R 3 240 000	**R 5 439 062**
TOTAL	47 391	11 699	49 881	R 12 249 693	R 18 527 915	R 9 173 094	R 554 420	R 52 342 031	R 140 388 000	**R 233 235 154**

GRAND TOTAL Unescalated				R 19 108 823	R 28 902 491	R 14 254 055	R 831 794	R 81 739 533	R 219 312 000	**R 364 148 696**

Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)	R 16 782 080	R 25 383 243	R 12 567 139	R 759 556	R 71 708 582	R 192 331 560	R 319 532 160
GRAND TOTAL Escalated	R 23 641 209	R 35 757 819	R 17 648 100	R 1 036 929	R 101 106 084	R 271 255 560	**R 450 445 703**

Contribution Factors				Rate	
Residential					
Water	Res 33m2	200	l/unit/day	R 4 824	per Kl/day
Sewer	Res 33m2	170	l/unit/day	R 8 584	per Kl/day
Roads	Res 33m2	0,5	trips/unit/day	R 1 112,73	per trip/day
Stormwater	Res 33m2	0,7	Runoff Factor	R 7,93	per impermeable m2
Electricity	Res 33m2	2,2	Kw/unit	R 1 995,00	per Kw
Parks	Res 33m3	8	m2/unit	R 1 500	per m2
Non Residential (commercial/business)					
Water	Retail/Resturant	2	Kl/500m2/day	R 4 824	per Kl/day
Sewer		1,6	Kl/500m2/day	R 8 584	per Kl/day
Roads		4,8	trips/unit/day	R 1 112,73	per trip/day
Stormwater		0,8	Runoff Factor	R 7,93	per impermeable m2
Electricity		5	Kw/500m2	R 1 995,00	per Kw
Parks		0	m2/500m2	R 1 500	per m2

Figure 184 : Bulk Contributions Summary Table

i. SEWER

Phase 1-years 1 to 5

					CONTRIBUTIONS							
					Residential			Non - Residential			**TOTAL**	
Precinct No	Total building area m2	Residential area m2	Dwelling units	Non-residential m2	SEWER 85% of Water (Kl)	Rate /Kl	Amount	SEWER 85% of Water (Kl)	Rate /Kl	Amount	CONTRIBUTION per Precinct	
1	38 966	31 562	1 014	3 897	172,38	R 8 584	1 479 710	13,25	R 8 584	113 725	R	1 593 435
2	46 267	37 476	1 187	4 627	201,79	R 8 584	1 732 165	15,73	R 8 584	135 033	R	1 867 198
3	3 985	3 228	81	399	13,77	R 8 584	118 202	1,35	R 8 584	11 630	R	129 832
8	83 525	67 655	2 170	8 353	368,90	R 8 584	3 166 638	28,40	R 8 584	243 773	R	3 410 410
9	40 836	33 077	1 080	4 084	183,60	R 8 584	1 576 022	13,88	R 8 584	119 182	R	1 695 205
12	14 831	12 013	309	1 483	52,53	R 8 584	450 918	5,04	R 8 584	43 285	R	494 203
13	37 781	30 603	736	3 778	125,12	R 8 584	1 074 030	12,85	R 8 584	110 266	R	1 184 296
TOTAL	266 191	215 615	6 577	26 619	1 118,09	R 8 584	9 597 685	90,50	R 8 584	776 894	**R**	**10 374 579**
Later Phases - years 6-15 (Unescalated)												
4	2 089	1 692	35	209	5,95	R 8 584	51 075	0,71	R 8 584	6 097	R	57 172
5	19 336	15 662	402	1 934	68,34	R 8 584	586 631	6,57	R 8 584	56 433	R	643 064
6	14 959	12 117	444	1 496	75,48	R 8 584	647 920	5,09	R 8 584	43 659	R	691 579
7	21 836	17 687	615	2 184	104,55	R 8 584	897 457	7,42	R 8 584	63 730	R	961 187
11	8 771	7 105	178	877	30,26	R 8 584	259 752	2,98	R 8 584	25 599	R	285 351
14	29 683	24 043	610	2 968	103,70	R 8 584	890 161	10,09	R 8 584	86 632	R	976 792
15	183 751	148 838	4 600	18 375	782,00	R 8 584	6 712 688	62,48	R 8 584	536 288	R	7 248 976
16	3 557	2 881	60	356	10,20	R 8 584	87 557	1,21	R 8 584	10 381	R	97 938
17	30 047	24 338	582	3 005	98,94	R 8 584	849 301	10,22	R 8 584	87 694	R	936 995
18	45 894	37 174	951	4 589	161,67	R 8 584	1 387 775	15,60	R 8 584	133 944	R	1 521 720
19	66 119	53 556	1 477	6 612	251,09	R 8 584	2 155 357	22,48	R 8 584	192 972	R	2 348 329
20	14 630	11 850	452	1 463	76,84	R 8 584	659 595	4,97	R 8 584	42 699	R	702 293
21	42 137	34 131	1 023	4 214	173,91	R 8 584	1 492 843	14,33	R 8 584	122 979	R	1 615 823
22	16 005	12 964	270	1 601	45,90	R 8 584	394 006	5,44	R 8 584	46 712	R	440 717
TOTAL	498 814	404 039	11 699	49 881	1 988,83	R 8 584	17 072 117	169,60	R 8 584	1 455 819	**R**	**18 527 915**

GRAND TOTAL Unescalated	765 005	619 654	18 276	76 501	3 107		R 26 669 801	260		R 2 232 690	**R 28 902 491**
Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)							R 23 388 800			R 1 994 443	R 25 383 243
GRAND TOTAL Escalated							R 30 986 484			R 2 771 335	**R 35 757 819**

Figure 185 : Table i : Sewer

ii. WATER

Phase 1-years 1 to 5

					CONTRIBUTIONS							
					Residential			Non - Residential			**TOTAL**	
Precinct No	Total building area m2	Residential area m2	Dwelling units	Non-residential m2	WATER 200 l/unit (Kl)	Rate /Kl	Amount	WATER 2000 l/500m2 (Kl)	Rate /Kl	Amount	CONTRIBUTION per Precinct	
1	38 966	31 562	1 014	3 897	202,80	R 4 824	R 978 307	15,59	R 4 824	R 75 189	R	1 053 496
2	46 267	37 476	1 187	4 627	237,40	R 4 824	R 1 145 218	18,51	R 4 824	R 89 277	R	1 234 494
3	3 985	3 228	81	399	16,20	R 4 824	R 78 149	1,59	R 4 824	R 7 689	R	85 838
8	83 525	67 655	2 170	8 353	434,00	R 4 824	R 2 093 616	33,41	$ 4 824	R 161 170	R	2 254 786
9	40 836	33 077	1 080	4 084	216,00	R 4 824	R 1 041 984	16,33	$ 4 824	R 78 797	R	1 120 781
12	14 831	12 013	309	1 483	61,80	R 4 824	R 298 123	5,93	$ 4 824	R 28 618	R	326 741
13	37 781	30 603	736	3 778	147,20	R 4 824	R 710 093	15,11	$ 4 824	R 72 902	R	782 995
TOTAL	266 191	215 615	6 577	26 619	1 315,40	R 4 824	R 6 345 490	106,48	$ 4 824	R 513 642	**R 6 859 130**	
Later Phases - years 6-15 (Unescalated)												
4	2 089	1 692	35	209	7,00	R 4 824	R 33 768	0,84	$ 4 824	R 4 031	R	37 799
5	19 336	15 662	402	1 934	80,40	R 4 824	R 387 850	7,73	$ 4 824	R 37 311	R	425 160
6	14 959	12 117	444	1 496	88,80	R 4 824	R 428 371	5,98	$ 4 824	R 28 865	R	457 236
7	21 836	17 687	615	2 184	123,00	R 4 824	R 593 352	8,73	$ 4 824	R 42 135	R	635 487
11	8 771	7 105	178	877	35,60	R 4 824	R 171 734	3,51	$ 4 824	R 16 925	R	188 659
14	29 683	24 043	610	2 968	122,00	R 4 824	R 588 528	11,87	$ 4 824	R 57 276	R	645 804
15	183 751	148 838	4 600	18 375	920,00	R 4 824	R 4 438 080	73,50	$ 4 824	R 354 566	R	4 792 646
16	3 557	2 881	60	356	12,00	R 4 824	R 57 888	1,42	$ 4 824	R 6 864	R	64 752
17	30 047	24 338	582	3 005	116,40	R 4 824	R 561 514	12,02	$ 4 824	R 57 979	R	619 492
18	45 894	37 174	951	4 589	190,20	R 4 824	R 917 525	18,36	$ 4 824	R 88 557	R	1 006 082
19	66 119	53 556	1 477	6 612	295,40	R 4 824	R 1 425 010	26,45	$ 4 824	R 127 583	R	1 552 593
20	14 630	11 850	452	1 463	90,40	R 4 824	R 436 090	5,85	$ 4 824	R 28 230	R	464 320
21	42 137	34 131	1 023	4 214	204,60	R 4 824	R 986 990	16,85	$ 4 824	R 81 308	R	1 068 298
22	16 005	12 964	270	1 601	54,00	R 4 824	R 260 496	6,40	$ 4 824	R 30 883	R	291 379
TOTAL	498 814	404 039	11 699	49 881	2 339,80	R 4 824	R 11 287 195	199,53	$ 4 824	R 962 511	**R 12 249 693**	
GRAND TOTAL Unescalated	765 005	619 654	18 276	76 501	3 655		R 17 632 685	306		R 1 476 138	**R 19 108 823**	
Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)							R 15 463 457			R 1 318 622	R 16 782 080	
GRAND TOTAL Escalated							R 21 808 947			R 1 832 262	**R 23 641 209**	

Figure 186 : Table ii : Water

iii. ROADS

Phase 1-years 1 to 5

							CONTRIBUTIONS							
							Residential			Non - Residential				**TOTAL**
Precinct No	Site area m2	Proposed coverage m2	Total building area m2	Residential area m2	Dwelling units	Non-residential m2	ROADS Trips (0.5 trips per unit)	Rate /trip	Amount	ROADS Trips (4.8 trips per 100m2)	Rate /trip	Amount	CONTRIBUTION per Precinct
1	11 150	6 494	38 964	21 041	1 014	3 896	507,00	R 1 112,73	R 564 154	187,03	R 1 112,73	R 208 111	R 772 265
2	24 256	11 567	46 267	37 476	1 187	4 627	593,50	R 1 112,73	R 660 405	222,08	R 1 112,73	R 247 117	R 907 522
3	3 568	1 328	3 984	4 303	81	398	40,50	R 1 112,73	R 45 066	19,12	R 1 112,73	R 21 279	R 66 345
8	52 655	13 921	83 526	45 103	2 170	8 353	1 085,00	R 1 112,73	R 1 207 312	400,92	R 1 112,73	R 446 121	R 1 653 433
9	14 511	6 806	40 836	22 052	1 080	4 084	540,00	R 1 112,73	R 600 874	196,01	R 1 112,73	R 218 109	R 818 984
12	32 211	4 944	14 832	16 018	309	1 483	154,50	R 1 112,73	R 171 917	71,19	R 1 112,73	R 79 219	R 251 136
13	17 513	7 080	37 781	22 938	736	3 778	368,00	R 1 112,73	R 409 485	181,35	R 1 112,73	R 201 792	R 611 277
TOTAL	155 864	52 140	266 190	168 931	6 577	26 619	3 288,50	R 1 112,73	R 3 659 213	1 277,71	R 1 112,73	R 1 421 748	**R 5 080 961**
Later Phases - years 6-15 (Unescalated)													
4	1 338	696	2 088	2 256	35	209	17,50	R 1 112,73	R 19 473	10,02	R 1 112,73	R 11 152	R 30 625
5	8 967	4 834	19 336	15 662	402	1 934	201,00	R 1 112,73	R 223 659	92,81	R 1 112,73	R 103 276	R 326 934
6	4 374	2 493	14 958	8 078	444	1 496	222,00	R 1 112,73	R 247 026	71,80	R 1 112,73	R 79 892	R 326 918
7	7 111	3 639	21 834	11 791	615	2 183	307,50	R 1 112,73	R 342 164	104,80	R 1 112,73	R 116 618	R 458 782
11	5 262	2 924	8 772	9 473	178	877	89,00	R 1 112,73	R 99 033	42,11	R 1 112,73	R 46 852	R 145 885
14	20 766	4 947	29 682	24 042	610	2 968	305,00	R 1 112,73	R 339 383	142,47	R 1 112,73	R 158 535	R 497 917
15	90 845	30 625	183 750	148 838	4 600	18 375	2 300,00	R 1 112,73	R 2 559 279	882,00	R 1 112,73	R 981 428	R 3 540 707
16	889	889	3 556	2 880	60	356	30,00	R 1 112,73	R 33 382	17,07	R 1 112,73	R 18 993	R 52 375
17	18 295	7 512	30 048	24 339	582	3 005	291,00	R 1 112,73	R 323 804	144,23	R 1 112,73	R 160 489	R 484 294
18	57 696	11 474	45 894	37 174	951	4 589	475,50	R 1 112,73	R 529 103	220,29	R 1 112,73	R 245 125	R 774 228
19	44 144	16 530	66 119	53 556	1 477	6 612	738,50	R 1 112,73	R 821 751	317,37	R 1 112,73	R 353 148	R 1 174 900
20	17 845	4 877	14 631	11 851	452	1 463	226,00	R 1 112,73	R 251 477	70,23	R 1 112,73	R 78 146	R 329 623
21	23 723	10 534	42 137	34 131	1 023	4 214	511,50	R 1 112,73	R 569 161	202,26	R 1 112,73	R 225 058	R 794 219
22	4 533	2 667	16 002	12 962	270	1 600	135,00	R 1 112,73	R 150 219	76,81	R 1 112,73	R 85 468	R 235 687
TOTAL	305 788	104 641	498 807	397 033	11 699	49 881	5 849,50	R 1 112,73	R 6 508 914	2 394,27	R 1 112,73	R 2 664 180	**R 9 173 094**
GRAND TOTAL Unescalated	461 652	156 781	764 997	565 964	18 276	76 500	9 138		R 10 168 127	3 672		R 4 085 929	**R 14 254 055**
Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)									R 8 917 212			R 3 649 927	R 12 567 139
GRAND TOTAL Escalated									R 12 576 425			R 5 071 675	**R 17 648 100**

Figure 187 : Table iii : Water

iv. STORMWATER

Phase 1-years 1 to 5

							CONTRIBUTIONS							
							Residential			Non - Residential				**TOTAL**
Precinct No	Site area m2	Proposed coverage m2	Total building area m2	Residential area m2	Dwelling units	Non-residential m2	STORMWATER m2 Impermeable	Rate/m2	Amount	STORMWATER m2 Impermeable	Rate/m2	Amount		CONTRIBUTION per Precinct
1	11 150	6 494	38 964	21 041	1 014	3 896	4 091	R 7,93	R 32 443	311,71	R 7,93	R 2 472	R	34 915
2	24 256	11 567	46 267	37 476	1 187	4 627	7 287	R 7,93	R 57 788	370,14	R 7,93	R 2 935	R	60 723
3	3 568	1 328	3 984	4 303	81	398	837	R 7,93	R 6 635	31,87	R 7,93	R 253	R	6 887
8	52 655	13 921	83 526	45 103	2 170	8 353	8 770	R 7,93	R 69 548	668,21	R 7,93	R 5 299	R	74 847
9	14 511	6 806	40 836	22 052	1 080	4 084	4 288	R 7,93	R 34 002	326,69	R 7,93	R 2 591	R	36 593
12	32 211	4 944	14 832	16 018	309	1 483	3 115	R 7,93	R 24 700	118,66	R 7,93	R 941	R	25 641
13	17 513	7 080	37 781	22 938	736	3 778	4 460	R 7,93	R 35 371	302,25	R 7,93	R 2 397	R	37 768
TOTAL	155 864	52 140	266 190	168 931	6 577	26 619	32 848	R 7,93	R 260 486	2 129,52	R 7,93	R 16 887	**R**	**277 373**
Later Phases - years 6-15 (Unescalated)														
4	1 338	696	2 088	2 256	35	209	438	R 7,93	R 3 477	16,70	R 7,93	R 132	R	3 610
5	8 967	4 834	19 336	15 662	402	1 934	3 045	R 7,93	R 24 150	154,69	R 7,93	R 1 227	R	25 377
6	4 374	2 493	14 958	8 078	444	1 496	1 571	R 7,93	R 12 455	119,66	R 7,93	R 949	R	13 404
7	7 111	3 639	21 834	11 791	615	2 183	2 293	R 7,93	R 18 180	174,67	R 7,93	R 1 385	R	19 565
11	5 262	2 924	8 772	9 473	178	877	1 842	R 7,93	R 14 608	70,18	R 7,93	R 556	R	15 165
14	20 766	4 947	29 682	24 042	610	2 968	3 117	R 7,93	R 24 715	237,46	R 7,93	R 1 883	R	26 598
15	90 845	30 625	183 750	148 838	4 600	18 375	19 294	R 7,93	R 152 999	1 470,00	R 7,93	R 11 657	R	164 657
16	889	889	3 556	2 880	60	356	560	R 7,93	R 4 441	28,45	R 7,93	R 226	R	4 667
17	18 295	7 512	30 048	24 339	582	3 005	4 733	R 7,93	R 37 529	240,38	R 7,93	R 1 906	R	39 435
18	57 696	11 474	45 894	37 174	951	4 589	7 229	R 7,93	R 57 323	367,15	R 7,93	R 2 912	R	60 234
19	44 144	16 530	66 119	53 556	1 477	6 612	10 414	R 7,93	R 82 582	528,95	R 7,93	R 4 195	R	86 777
20	17 845	4 877	14 631	11 851	452	1 463	3 073	R 7,93	R 24 365	117,05	R 7,93	R 928	R	25 293
21	23 723	10 534	42 137	34 131	1 023	4 214	6 636	R 7,93	R 52 627	337,10	R 7,93	R 2 673	R	55 300
22	4 533	2 667	16 002	12 962	270	1 600	1 680	R 7,93	R 13 324	128,02	R 7,93	R 1 015	R	14 339
TOTAL	305 788	104 641	498 807	397 033	11 699	49 881	65 924	R 7,93	R 522 776	3 990,46	R 7,93	R 31 644	**R**	**554 420**
GRAND TOTAL Unescalated	461 652	156 781	764 997	565 964	18 276	76 500	98 772		R 783 262	6 120		R 48 531	**R**	**831 794**
Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)									R 716 203			R 43 353	R	759 556
GRAND TOTAL Escalated									R 976 689			R 60 240		**R 1 036 929**

Figure 188 : Table iv : Stormwater

v. ELECTRICITY

Phase 1-years 1 to 5

							CONTRIBUTIONS									
							Residential					Non-Residential				TOTAL
Precinct No	Site area m2	Proposed coverage m2	Total building area m2	Residential area m2	Dwelling units	Non-residential m2	ELECTRICITY Kw per Unit	Total Kw	Rate	Amount		ELECTRICITY Kw per 500m2	Total Kw	Rate	Amount	CONTRIBUTION per Precinct
1	11 150	6 494	38 964	21 041	1 014	3 896	2,2	2 230,80	R 1 995,00	R 4 450 446		5	38,96	R 1 995,00	R 77 733	R 4 528 179
2	24 256	11 567	46 267	37 476	1 187	4 627	2,2	2 611,40	R 1 995,00	R 5 209 743		5	46,27	R 1 995,00	R 92 303	R 5 302 046
3	3 568	1 328	3 984	4 303	81	398	2,2	178,20	R 1 995,00	R 355 509		5	3,98	R 1 995,00	R 7 948	R 363 457
8	52 655	13 921	83 526	45 103	2 170	8 353	2,2	4 774,00	R 1 995,00	R 9 524 130		5	83,53	R 1 995,00	R 166 634	R 9 690 764
9	14 511	6 806	40 836	22 052	1 080	4 084	2,2	2 376,00	R 1 995,00	R 4 740 120		5	40,84	R 1 995,00	R 81 468	R 4 821 588
12	32 211	4 944	14 832	16 018	309	1 483	2,2	679,80	R 1 995,00	R 1 356 201		5	14,83	R 1 995,00	R 29 590	R 1 385 791
13	17 513	7 080	37 781	22 938	736	3 778	2,2	1 619,20	R 1 995,00	R 3 230 304		5	37,78	R 1 995,00	R 75 373	R 3 305 677
TOTAL	155 864	52 140	266 190	168 931	6 577	26 619	2,2	14 469,40	R 1 995,00	R 28 866 453		5	266,19	R 1 995,00	R 531 049	**R 29 397 502**
Later Phases - years 6-15 (Unescalated)																
4	1 338	696	2 088	2 256	35	209	2,2	77,00	R 1 995,00	R 153 615		5	2,09	R 1 995,00	R 4 166	R 157 781
5	8 967	4 834	19 336	15 662	402	1 934	2,2	884,40	R 1 995,00	R 1 764 378		5	19,34	R 1 995,00	R 38 575	R 1 802 953
6	4 374	2 493	14 958	8 078	444	1 496	2,2	976,80	R 1 995,00	R 1 948 716		5	14,96	R 1 995,00	R 29 841	R 1 978 557
7	7 111	3 639	21 834	11 791	615	2 183	2,2	1 353,00	R 1 995,00	R 2 699 235		5	21,83	R 1 995,00	R 43 559	R 2 742 794
11	5 262	2 924	8 772	9 473	178	877	2,2	391,60	R 1 995,00	R 781 242		5	8,77	R 1 995,00	R 17 500	R 798 742
14	20 766	4 947	29 682	24 042	610	2 968	2,2	1 342,00	R 1 995,00	R 2 677 290		5	29,68	R 1 995,00	R 59 216	R 2 736 506
15	90 845	30 625	183 750	148 838	4 600	18 375	2,2	10 120,00	R 1 995,00	R 20 189 400		5	183,75	R 1 995,00	R 366 581	R 20 555 981
16	889	889	3 556	2 880	60	356	2,2	132,00	R 1 995,00	R 263 340		5	3,56	R 1 995,00	R 7 094	R 270 434
17	18 295	7 512	30 048	24 339	582	3 005	2,2	1 280,40	R 1 995,00	R 2 554 398		5	30,05	R 1 995,00	R 59 946	R 2 614 344
18	57 696	11 474	45 894	37 174	951	4 589	2,2	2 092,20	R 1 995,00	R 4 173 939		5	45,89	R 1 995,00	R 91 559	R 4 265 498
19	44 144	16 530	66 119	53 556	1 477	6 612	2,2	3 249,40	R 1 995,00	R 6 482 553		5	66,12	R 1 995,00	R 131 907	R 6 614 460
20	17 845	4 877	14 631	11 851	452	1 463	2,2	994,40	R 1 995,00	R 1 983 828		5	14,63	R 1 995,00	R 29 189	R 2 013 017
21	23 723	10 534	42 137	34 131	1 023	4 214	2,2	2 250,60	R 1 995,00	R 4 489 947		5	42,14	R 1 995,00	R 84 063	R 4 574 010
22	4 533	2 667	16 002	12 962	270	1 600	2,2	594,00	R 1 995,00	R 1 185 030		5	16,00	R 1 995,00	R 31 924	R 1 216 954
TOTAL	305 788	104 641	498 807	397 033	11 699	49 881	2,2	25 737,80	R 1 995,00	R 51 346 911		5	498,81	R 1 995,00	R 995 120	**R 52 342 031**
GRAND TOTAL Unescalated	461 652	156 781	764 997	565 964	18 276	76 500		40 207		R 80 213 364			765		R 1 526 169	**R 81 739 533**
Add Estimated Escalation to midpoint of expenditure at 6.5% per annum compound (37%)										R 70 345 268					R 1 363 314	R 71 708 582
GRAND TOTAL Escalated										R 99 211 721					R 1 894 363	**R 101 106 084**

Figure 189 : Table v: Electricity

Reference List

Albonica Sack Mzumara and Urban Design with MMA Architects. (2005). GEP Manufacturing Precinct Draft Precinct Plan. Johannesburg: Johannesburg Development Agency.

Albonica Sack Mzumara and Urban Designers with MMA Architects. (2005). GEP Education Precinct Draft Precinct Plan. Johannesburg Development Agency.

Albonica Sack Mzumara Architects and Urban Designers with MMA Architects. (2005). GEP Jukskei River Park Draft Precinct Plan. Johannesburg: Johannesburg Development Agency.

Albonica Sack Mzumara Architects and Urban Designers with MMA Architects. (2005). GEP Bezuidenhout Mixed Use Precinct Draft Precinct Plan. Johannesburg Development Agency.

Albonico Sack Mzumara Architects and Urban Designers with MMA Architects. (2005). GEP Bertrams Community Cluster Precinct Draft Precinct Plan. Johannesburg: Johannesburg Development Agency.

Albonico Sack Mzumara Architects and Urban Designers with MMA Architects. (2005). GEP Bertrams Derby Road Precinct Draft Precinct Plan. Johannesburg: Johannesburg Development Agency.

Budlender J, Spatial Mismatch and Spatial Justice in South Africa's Main Urban Areas; Socio-economic Rights Institute, 2016

City of Johannesburg. (2013). Inner City Transformation Roadmap Draft.
Johannesburg: City of Johannesburg.

Evalsed. (2013, September). The resources for the evaluation of Socio-Economic Development.
Retrieved from http://ec.europa.eu/regional_policy/sources/docgener/evaluation/guide/guide_evalsed.pd

Gibbs & Albonica Sack Mzumara Architects and Urban Designers. (2010). Johannesburg Inner City Traffic & Transportation Study. Johannesburg: Johannesburg Development Agency.

Holmdens REGISTER OF GREATER JOHANNESBURG TOWNSHIPS, Map Office, circa 1940.

http://dotmap.adrianfrith.com/ (Accessed 19 December 2014)

Johannesburg Development Agency. (2008). Bertrams Priority Block. Johannesburg: Johannesburg Development Agency.

Johannesburg Development Agency. (2009). Joburg Inner City Urban Design Implementation Plan.
Johannesburg: City of Joburg.
Leyds, G. A. A HISTORY OF JOHANNESBURG - THE EARLY YEARS, Nasionale Boekhandel

Bpk, Johannesburg, 1964.

Lightstone Property. (2016). Suburbs Reports. Johannesburg: Lightstone Property.

Loots, Annemarie. (2008). Jeppestown Troyeville Fairview Malvern Urban Development Framework. Johannesburg: CoJ Development Planning and Facilitation.

Norwich, O. L. A JOHANNESBURG ALBUM - HISTORICAL POSTCARDS, AD Donker, Johannesburg, 1986.

Quantec EasyData. (2015). Http://www.quantec.co.za

Rabianski, J.S., Gibler, K. M., Celements, S., & Tidwell, A.O (2009). Mixed Use Development and Financial feasibility: Part II – Physical, Phasing, Design and Public Policy Factors. Real Estate Issues., 34 , 17-22.

RebelGroup. (2015). Johannesburg Inner City Housing Strategy & Action Plan Draft. Johannesburg: Johannesburg Development Agency.

Rodes Report 2015:4 (2015). Rode's Report on the South African Property market. Rode Publication.

SA, S (2015, March). Retrieved from Statistics South Africa: Http://www.statssa.gov.za

Smith, A. JOHANNESBURG STREET NAMES, Juta, Johannesburg, 1972.

UrbanWorks Architecture and Urbanism. (2012). Maboneng Neighbourhood Urban Design Strategies and Guidelines. Johannesburg: Maboneng Precinct.