

Table LBS6.5(a): Proposed works, cost estimates & phasing - Future System

Item No. (Ref. Fig. LBS6.5a)	MP item Type	Description	Estimated cost * (R-yr 2011 value)	Time Related Phasing	Comments	Project no.
Ashton						
Distribution System Items						
LAS1.01	MPi	781 m x 315 mm Ø Upgrade existing Gravity (Investigate first)	1 468 200	2018	When overflow problems occur. Modelled on 200 mm Ø at minimum slope	PRJ-LAS-001
LAS1.02	MPi	263 m x 315 mm Ø Upgrade existing Gravity (Investigate first)	430 600	2020	When overflow problems occur. Modelled on 200 mm Ø at minimum slope	PRJ-LAS-001
LAS1.03	MPi	905 m x 250 mm Ø Upgrade existing Gravity (Investigate first)	1 096 800	2020	When overflow problems occur. Modelled on 200 mm Ø at minimum slope	PRJ-LAS-001
LAS1.04	MP	Upgrade existing Pump Station	234 000	2019	Upgrade to a 78 l/s pumping station	PRJ-LAS-001
LAS1.05	MP	2465 m x 315 mm Ø Upgrade existing Rising	3 132 100	2019	Upgrade existing rising main. With item LAS1.04	PRJ-LAS-001
LAS1.06	MPs	Investigate existing Gravity	2 900	2026	Investigate route and slope	PRJ-LAS-002
LAS1.07	FM	206 m x 160 mm Ø New Gravity	166 000	2022	Required when FDA A01 develops	PRJ-LAS-002
LAS1.08	FM	169 m x 160 mm Ø New Gravity	141 600	2022	Required when FDA A02 develops	PRJ-LAS-002
LAS1.09	FM	215 m x 160 mm Ø New Gravity	172 300	2018	Required when FDA A03 develops	PRJ-LAS-002
LAS1.10	FM	173 m x 160 mm Ø New Gravity	144 100	2013	Required when FDAs A04 & A09 develop	PRJ-LAS-002
LAS1.11	FM	235 m x 250 mm Ø New Gravity	240 300	2026	Required when FDA A05 develops	PRJ-LAS-002
LAS1.12	FM	601 m x 200 mm Ø New Gravity	488 300	2026	Required when FDA A08 develops	PRJ-LAS-002
LAS1.13	FM	267 m x 160 mm Ø New Gravity	207 200	2026	Required when FDA A06 develops	PRJ-LAS-002
LAS2.01	MPi	503 m x 315 mm Ø Upgrade existing Gravity (Investigate first)	756 900	2014	When overflow problems occur. Modelled on 150 mm Ø at minimum slope	PRJ-LAS-003
LAS2.02	FM	204 m x 200 mm Ø New Gravity	183 500	2024	Required when FDA A07 develops	PRJ-LAS-005
LAS2.03	FM	New Pump Station	342 200	2024	New 5 l/s pumping station. When FDA A07 develops	PRJ-LAS-005
LAS2.04	FM	300 m x 90 mm Ø New Rising	101 700	2024	New 90 mm Ø rising main. With item LAS2.03	PRJ-LAS-005
LAS3.01	MPs	Investigate existing Gravity	61 500	2012	Survey & capture network information	PRJ-LAS-004
LAS3.02	MPs	Investigate existing Gravity	37 200	2012	Survey & capture network information	PRJ-LAS-004
LAS4.01	MPs	Investigate existing Pump Station	14 300	2012	Verify pump station capacity	PRJ-LAS-001
TOTALS			9 421 700			

Item No. (Ref. Fig. LBS6.5b)	MP item Type	Description	Estimated cost * (R-yr 2011 value)	Time Related Phasing	Comments	Project no.
Bonnievale						
Distribution System Items						
LBS1.01	MPi	488 m x 250 mm Ø Upgrade existing Gravity (Investigate first)	618 300	2013	When overflow problems occur. Modelled on 160 mm Ø at minimum slope	PRJ-LBS-002
LBS1.02	MPi	292 m x 200 mm Ø Upgrade existing Gravity (Investigate first)	344 600	2013	When overflow problems occur. Modelled on 160 mm Ø at minimum slope	PRJ-LBS-002
LBS1.03	MPi	Upgrade existing Pump Station (Investigate first)	393 700	2012	Verify capacity of pumping station	PRJ-LBS-007
LBS2.01	MPi	Upgrade existing Pump Station (Investigate first)	356 500	2012	Verify capacity of pumping station	PRJ-LBS-007
LBS3.01	MP	Upgrade existing Pump Station	193 400	2014	Upgrade to 50 l/s pumping station	PRJ-LBS-003
LBS3.02	MP	827 m x 250 mm Ø Upgrade existing Rising	749 500	2014	Upgrade rising main. With item LBS3.01	PRJ-LBS-003
LBS3.03	MPs	Investigate existing Gravity	2 900	2012	Investigate diameter of siphon	PRJ-LBS-003
LBS3.04	FM	285 m x 250 mm Ø New Gravity	284 800	2014	Required when FDAs B03 & B06 - B09 develops	PRJ-LBS-008
LBS3.05	FM	610 m x 160 mm Ø New Gravity	439 100	2016	Required when FDA B03 develops	PRJ-LBS-008
LBS3.06	FM	171 m x 160 mm Ø New Gravity	142 700	2018	Required when FDA B08 develops	PRJ-LBS-008
LBS3.07	FM	689 m x 200 mm Ø New Gravity	555 500	2017	Required when FDAs B06 & B07 develop	PRJ-LBS-008
LBS3.08	FM	439 m x 160 mm Ø New Gravity	323 400	2020	Required when FDA B06 develops	PRJ-LBS-008
LBS3.09	FM	369 m x 160 mm Ø New Gravity	276 200	2018	Required when FDA B07 develops	PRJ-LBS-008
LBS3.10	MPs	Investigate existing Pump Station	14 300	2012	Verify capacity of pumping station	PRJ-LBS-007
LBS4.01	MPi	67 m x 315 mm Ø Upgrade existing Gravity (Investigate first)	157 600	2015	When overflow problems occur. Modelled on 160 mm Ø at minimum slope	PRJ-LBS-004
LBS4.02	MPi	659 m x 250 mm Ø Upgrade existing Gravity (Investigate first)	804 100	2015	When overflow problems occur. Modelled on 160 mm Ø at minimum slope	PRJ-LBS-004
LBS4.03	MPi	Upgrade existing Pump Station (Investigate first)	148 300	2015	Upgrade pumping station	PRJ-LBS-004
LBS4.04	MP	1314 m x 250 mm Ø Upgrade existing Rising	1 173 800	2015	Upgrade rising main with item LBS4.03. Connect to new outfall sewer LBS7.01	PRJ-LBS-004
LBS5.01	MPs	Investigate existing Pump Station	14 300	2011	Investigate capacity of pumping station	PRJ-LBS-005
LBS5.02	MPi	43 m x 315 mm Ø Upgrade existing Gravity (Investigate first)	123 200	2015	Investigate gravity system of PS 7 catchment	PRJ-LBS-005
LBS6.01	FM	2888 m x 160 mm Ø New Gravity	2 960 100	2024	Required for existing unserved erven	PRJ-LBS-006
LBS6.02	FM	New Pump Station	342 200	2024	New 5 l/s pumping station	PRJ-LBS-006
LBS6.03	FM	924 m x 90 mm Ø New Rising	295 600	2024	New 90 mm Ø rising main. With item LBS6.02	PRJ-LBS-006
LBS6.04	FM	3911 m x 160 mm Ø New Gravity	3 361 500	2024	Required for existing unserved erven	PRJ-LBS-006
LBS7.01	FM	951 m x 355 mm Ø New Gravity	1 241 700	2024	Flow diverted to new outfall when overflow problems occur	PRJ-LBS-001
LBS7.02	FM	New Flow Diversion	157 600	2024	Divert flow above 17 l/s to new outfall sewer	PRJ-LBS-001
LBS7.03	FM	20 m x 315 mm Ø New Gravity	53 900	2024	Divert flow to new outfall sewer	PRJ-LBS-001
LBS7.04	MP	Upgrade existing Pump Station	337 900	2022	Upgrade pumping station	PRJ-LBS-001
LBS7.05	MP	1413 m x 355 mm Ø Upgrade existing Rising	2 179 600	2022	Upgrade rising main	PRJ-LBS-001
LBS8.01	MPi	Upgrade existing Pump Station (Investigate first)	356 500	2012	Verify capacity of pumping station	PRJ-LBS-007
TOTALS			18 402 800			

Item No. (Ref. Fig. LBS6.5c)	MP item Type	Description	Estimated cost * (R-yr 2011 value)	Time Related Phasing	Comments	Project no.
McGregor						
Distribution System Items						
LMcS1.01	FM	1647 m x 160 mm Ø New Gravity	1 431 400	2014	Required for existing unserved erven	PRJ-LMcS-001
LMcS1.02	FM	2432 m x 160 mm Ø New Gravity	2 101 100	2016	Required for existing unserved erven	PRJ-LMcS-001
LMcS1.03	FM	3723 m x 160 mm Ø New Gravity	3 201 100	2018	Required for existing unserved erven	PRJ-LMcS-001
LMcS1.04	FM	238 m x 160 mm Ø New Gravity	230 200	2018	Required for existing unserved erven	PRJ-LMcS-001
LMcS2.01	MP	344 m x 250 mm Ø Upgrade existing Gravity	414 900	2020	When overflow problems occur	PRJ-LMcS-002
LMcS2.02	MP	73 m x 200 mm Ø Upgrade existing Gravity	98 100	2020	When overflow problems occur	PRJ-LMcS-002
LMcS2.03	MP	289 m x 160 mm Ø Upgrade existing Gravity	273 200	2020	When overflow problems occur	PRJ-LMcS-002
LMcS2.04	MPi	63 m x 160 mm Ø Upgrade existing Gravity (Investigate first)	83 800	2020	When overflow problems occur. Modelled on 110 mm Ø at minimum slope	PRJ-LMcS-002
LMcS3.01	FM	New Pump Station	342 200	2023	New 5 l/s pumping station	PRJ-LMcS-003
LMcS3.02	FM	209 m x 90 mm Ø New Rising	73 600	2023	New 90 mm Ø rising main. With item LMcS3.01	PRJ-LMcS-003
TOTALS			8 249 600			

Table LBS6.5(a): Proposed works, cost estimates & phasing - Future System

Item No. (Ref. Fig. LBS6.5d)	MP item Type	Description	Estimated cost * (R-yr 2011 value)	Time Related Phasing	Comments	Project no.
Montagu						
Distribution System Items						
LMS1.01	MP	142 m x 450 mm Ø Upgrade existing Gravity	347 400	2015	When overflow problems occur	PRJ-LMS-001
LMS1.02	MP	246 m x 355 mm Ø Upgrade existing Gravity	417 900	2018	When overflow problems occur	PRJ-LMS-001
LMS1.03	MP	592 m x 355 mm Ø Upgrade existing Gravity	957 200	2015	When overflow problems occur	PRJ-LMS-001
LMS1.04	MP	313 m x 315 mm Ø Upgrade existing Gravity	461 300	2015	When overflow problems occur	PRJ-LMS-001
LMS1.05	MP	285 m x 250 mm Ø Upgrade existing Gravity	348 400	2020	When overflow problems occur	PRJ-LMS-001
LMS1.06	MP	Upgrade existing Pump Station	377 800	2022	Upgrade pumping station	PRJ-LMS-001
LMS1.07	MP	1304 m x 355 mm Ø Upgrade existing Rising	1 995 500	2022	Upgrade rising main with item LMS1.06	PRJ-LMS-001
LMS1.08	FM	105 m x 200 mm Ø New Gravity	107 900	2014	New 200 mm Ø gravity main to divert flow to new collector sewer	PRJ-LMS-004
LMS1.09	FM	New Flow Diversion	136 100	2013	Divert flow to new sewer	PRJ-LMS-005
LMS1.10	FM	212 m x 160 mm Ø New Gravity	170 500	2013	New 160 mm Ø gravity main to divert flow to new collector sewer	PRJ-LMS-005
LMS1.11	FM	935 m x 315 mm Ø New Gravity	1 071 100	2013	New 315 mm Ø gravity main. When FDA M11, M17 & M18 develops	PRJ-LMS-003
LMS1.12	FM	556 m x 250 mm Ø New Gravity	528 200	2013	New 250 mm Ø gravity main. When FDA M11, M17 & M18 develops	PRJ-LMS-003
LMS1.13	FM	217 m x 200 mm Ø New Gravity	193 300	2013	New 200 mm Ø gravity main. When FDA M11 develops	PRJ-LMS-003
LMS1.14	FM	614 m x 200 mm Ø New Gravity	498 400	2013	New 200 mm Ø gravity main. When FDA M11 develops	PRJ-LMS-003
LMS1.15	MPi	Upgrade existing Pump Station (Investigate first)	123 000	2017	Upgrade pumping station	PRJ-LMS-006
LMS1.16	MPi	1100 m x 125 mm Ø Upgrade existing Rising (Investigate first)	465 700	2017	Upgrade if condition not suitable to handle high velocity	PRJ-LMS-006
LMS1.17	MPs	Investigate existing Gravity	1 500	2017	Investigate gravity network	PRJ-LMS-006
LMS1.18	MPa	Abandon existing Gravity	4 300	2014	Abandon gravity main with implementation of items LMS1.08 - LMS 1.12	PRJ-LMS-004
LMS1.19	FM	474 m x 160 mm Ø New Gravity	346 900	2029	Required when FDA M07 develops	PRJ-LMS-004
LMS1.20	FM	New Flow Diversion	136 100	2014	Divert flow to new sewer	PRJ-LMS-004
LMS2.01	MP	Upgrade existing Pump Station	193 400	2023	Upgrade pumping station	PRJ-LMS-002
LMS2.02	MP	1605 m x 250 mm Ø Upgrade existing Rising	1 413 700	2023	Upgrade rising main with item LMS2.01	PRJ-LMS-002
LMS2.03	MPs	Investigate existing Gravity	2 900	2021	Investigate slope of gravity main	PRJ-LMS-002
LMS2.04	MPs	Investigate existing Gravity	1 500	2021	Investigate slope of gravity main	PRJ-LMS-002
LMS3.01	MPa	Abandon existing Pump Station	143 300	2014	Abandon pumping station with implementation of items LMS1.09 - LMS1.14	PRJ-LMS-005
LMS3.02	MPa	Abandon existing Rising	4 300	2014	Abandon rising main with item LMS3.01	PRJ-LMS-005
TOTALS			10 447 600			

Item No. (Ref. Fig. LBS6.5e)	MP item Type	Description	Estimated cost * (R-yr 2011 value)	Time Related Phasing	Comments	Project no.
Robertson						
Distribution System Items						
LR51.01	MP	690 m x 525 mm Ø Upgrade existing Gravity	1 880 200	2020	When overflow problems occur	PRJ-LRS-001
LR51.02	MP	249 m x 250 mm Ø Upgrade existing Gravity	337 400	2021	When overflow problems occur	PRJ-LRS-001
LR51.03	MP	426 m x 200 mm Ø Upgrade existing Gravity	465 800	2026	When overflow problems occur	PRJ-LRS-001
LR51.04	FM	721 m x 160 mm Ø New Gravity	514 000	2014	Required when FDA R07 & R08 develops	PRJ-LRS-004
LR51.05	FM	86 m x 160 mm Ø New Gravity	85 100	2014	Required when FDA R07 & R08 develops	PRJ-LRS-004
LR51.06	FM	281 m x 160 mm Ø New Gravity	217 000	2019	Required when FDA R06 develops	PRJ-LRS-004
LR52.01	MPi	Upgrade existing Pump Station (Investigate first)	165 800	2016	Upgrade pumping station (Investigate upstream pumping stations first)	PRJ-LRS-002
LR52.02	MPi	182 m x 200 mm Ø Upgrade existing Rising (Investigate first)	133 700	2016	Upgrade rising main with item LR52.01	PRJ-LRS-002
LR52.03	MPi	67 m x 250 mm Ø Upgrade existing Gravity (Investigate first)	133 800	2011	When overflow problems occur. Modelled on 200 mm Ø at minimum slope	PRJ-LRS-002
LR53.01	MPs	Investigate existing Pump Station	14 300	2012	Verify pump capacity of existing pumping station	PRJ-LRS-003
LR53.02	MPs	Investigate existing Pump Station	14 300	2012	Verify pump capacity of existing pumping station	PRJ-LRS-003
LR53.03	MPs	Investigate existing Pump Station	14 300	2012	Verify pump capacity of existing pumping station	PRJ-LRS-003
LR53.04	MPs	Investigate existing Pump Station	14 300	2012	Verify pump capacity of existing pumping station	PRJ-LRS-003
LR53.05	MPs	Investigate existing Gravity	1 500	2012	Silverstrand network information required	PRJ-LRS-003
LR54.01	FM	59 m x 160 mm Ø New Gravity	537 600	2015	New railway crossing when FDA R16 develops	PRJ-LRS-004
LR55.01	FM	89 m x 160 mm Ø New Gravity	87 000	2015	Required when FDA R24 develops	PRJ-LRS-004
TOTALS			4 616 100			

* Costs include P&G's, Contingencies & Fees, but exclude EIA studies, registration of servitudes and/or land acquisition, protection, monitoring and VAT.

Note :

- FM = Future main - New gravity outfall sewer, rising main, pump station, diversion structure or WWTP
- MP = Master Plan Items which reinforce the existing system
- MPa = Master Plan Items which are abandoned
- MPi = Master Plan investigate - Upgrades for existing facilities, where there is uncertainty over e.g. actual diameters, actual slopes or actual pump capacities. The existing facilities must be investigated first,
- MPs = Master Plan Items where only investigation is required