APPENDIX D. FLOOD MODIFICATION OPTIONS COSTS



Preparation and implementation Survey and set out works Temporary Access Track Temporary Fencing (light duty sit Temporary Fencing (chainwire) Temporary Fencing (chainwire) Temporary Signage Portable Toilet Single chemical pan toilet includi Silt fence Silt sausage Geotech during construction Traffic Control - Road closure Traffic Control - Road closure Traffic Control Land clearing (medium vegetatic Cut down tree, grub up stump, r Breakup and remove reinforced Breakup and remove reinforced Breakup and remove bitumen p Remove kerbs Remove Pipes Remove Pipes Remove Pits Take down and remove chain In Take down and remove chain In Take down and remove spear he Remove retaining wall Remove signage Dismantle large sign Excavate over site to reduce leve Excavate trenches (up to 1m dee Excavate trenches (up to 1m dee Excavate trenches (up to 2m dee Excavate trenches (beyond 2m d Detailed excavation around pits Dewatering deep system with 15 Balance cut and fill (0.5/1m deep Remove surplus excavated mate Cart excavated material Dispose of clean fill Dispose of contaminated soil (lon Dispose of contaminated soil (lon Dispose of contaminated soil (lin) Excavated material as filling (on s) Clean sand filling Crushed rock filling laid and cons Labour forming sloping edge to f	ing pumping out and cleaning on) oots and cart away or burn on site (1000, concrete in open excavations concrete in trenches aving with basecourse under ence k fence ead security fence els in light soil, incl backfilling) ep in light soil, incl backfilling) ep in light soil, incl backfilling) foom header pipe, 1500mm well point color in light soil rail from site to tip not exceeding 10km of mixed w level, assumed ASS) gh level) site) solidated in 150mm layers filling r slabs, paving and the like, including com class 4 1050mm dia class 4 1500mm dia class 4 1500mm dia class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	Unit ea day m m ea week week m m day day day day r ea m m m m m m m m m m m m m m m m m m		Raw Rate	20,000.00 1,221.54 101.79 15.27 38.68 508.97 88.55 66.17 20.97 19.70 1,221.54 305.38 1,807.87 0.65 574.12 344.07 425.50 4.28 34.61 122.15 576.16 8.65 20,35.89 27.38 61.08 69.73 104.59 157.78 73.90 18.63 27.99 30.54 435.68 357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28	Estimation of Council Costs Estimation (Statimation Statimation St
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Balance cut and fill (0.5/1m deep Remove surplus excavated mater Cart excavated material Dispose of demolition material - Dispose of clean fill Dispose of contaminated soil (lon Dispose of contaminated soil	o) in light soil rail from site to tip not exceeding 10km of mixed w level, assumed ASS) gh level) site) solidated in 150mm layers fillling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1500mm dia Class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m³ m³ m³ per Skm per m³ t t t t t m³ m³ m³ m² m² m m m		18.30 \$ 27.50 \$ 30.00 \$ 428.00 \$ 428.00 \$ 351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	18.63 27.99 30.54 435.68 357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Remove surplus excavated material Dispose of demolition material - Dispose of clean fill Dispose of contaminated soil (loo Dispose of contaminated soil (loo Dispose of contaminated soil (hig Excavated material as filling (on soil) Clean sand filling Crushed rock filling laid and constabour forming sloping edge to follow the soil of	rail from site to tip not exceeding 10km of mixed w level, assumed ASS) gh level) site) solidated in 150mm layers filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia class 4 1500mm dia meter culvert meter culvert ameter culvert	m³ per 5km per m³ t t t t t m³ m³ m³ m² m m²		27.50 \$ 30.00 \$ 428.00 \$ 428.00 \$ 351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	27.99 30.54 435.68 357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Cart excavated material Dispose of demolition material - Dispose of clean fill Dispose of contaminated soil (lot Excavated material as filling (on soil) Clean sand filling Crushed rock filling laid and constance to the control of the contro	mixed w level, assumed ASS) gh level) solidated in 150mm layers fillling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1200mm dia class 4 1500mm dia meter culvert ameter culvert	per 5km per m³ t t t t m³ m³ m³ m² m m m m	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	30.00 \$ 428.00 \$ 351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	30.54 435.68 357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Dispose of demolition material - Dispose of clean fill Dispose of contaminated soil (lor Excavated material as filling (on soil clean sand filling Crushed rock filling laid and constance to the contaminate stopping edge to follow	w level, assumed ASS) gh level) site) solidated in 150mm layers filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	t t t t m³ m³ m³ m a m m m	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	428.00 \$ 351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	435.68 357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Dispose of clean fill Dispose of contaminated soil (low Dispose of contaminated soil (low Dispose of contaminated soil (low Excavated material as filling (on second contaminated soil (low Clean sand filling Crushed rock filling laid and cons Labour forming sloping edge to fell Level ground surface under floor Market Management Concrete pipe to AS 4058-1992 (Concrete pip	w level, assumed ASS) gh level) site) solidated in 150mm layers filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	t t t m³ m³ m³ m² m m m	****	351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Dispose of clean fill Dispose of contaminated soil (lot Dispose of contaminated soil (lot Dispose of contaminated soil (lot Excavated material as filling (on so Clean sand filling Crushed rock filling laid and cons Labour forming sloping edge to f Level ground surface under floor Level ground surface under floor Concrete pipe to AS 4058-1992 (Concrete pipe to AS 4058-19	w level, assumed ASS) gh level) site) solidated in 150mm layers filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	t t t m³ m³ m³ m² m m m	****	351.00 \$ 397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	357.30 404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Dispose of contaminated soil (low Dispose of contaminated soil (low Dispose of contaminated soil (low Excavated material as filling (on some clean sand filling). Crushed rock filling laid and consum tabour forming sloping edge to follow the contaminated soil and consumers are sold to the contaminate soil and consumers are soil and consumers. Concrete pipe to AS 4058-1992 Concrete pipe to AS 40	gh level) site) solidated in 150mm layers fillling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1200mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	t t t m³ m³ m³ m² m m m²	****	397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Dispose of contaminated soil (low Dispose of contaminated soil (low Dispose of contaminated soil (low Excavated material as filling (on some clean sand filling). Crushed rock filling laid and consummated solvent forming sloping edge to form the control of the c	gh level) site) solidated in 150mm layers fillling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1200mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	t t t m³ m³ m³ m² m m m²	****	397.50 \$ 912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	404.63 928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Dispose of contaminated soil (high Excavated material as filling (on section of the content of t	gh level) site) solidated in 150mm layers fillling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1200mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m³ m³ m³ m² m m m m²	* * * * * * * * * * *	912.50 \$ 9.60 \$ 80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	928.88 9.77 81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Clean sand filling Crushed rock filling laid and constabour forming sloping edge to f Level ground surface under floor Concrete pipe to AS 4058-1992 (Precast headwall for 1000mm dia Precast headwall for 1000mm dia Precast headwall for 1000mm di Precast headwall for 1500mm di Precast concrete Box Culvert (45 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (17 Precast Concrete Box Culvert (18	solidated in 150mm layers filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m ³ m ³ m m m ² m m m m	\$ \$ \$ \$ \$ \$ \$	80.00 \$ 88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	81.44 89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Crushed rock filling laid and cons Labour forming sloping edge to f Level ground surface under floor Concrete pipe to AS 4058-1992 (Precast headwall for 600mm dia Precast headwall for 900mm dia Precast headwall for 1050mm di Precast headwall for 1500mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12) Precast Concrete Box Culvert (12)	filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m³ m m² m m m m	\$ \$ \$ \$ \$ \$	88.00 \$ 3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	89.58 3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Labour forming sloping edge to facel Level ground surface under floor Tomwater Management Concrete pipe to AS 4058-1992 of Concret	filling r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m m² m m m m	\$ \$ \$ \$	3.20 \$ 4.20 \$ 540.00 \$ 795.00 \$	3.26 4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Level ground surface under floor Tomwater Management Concrete pipe to AS 4058-1992 (Precast headwall for 600mm dial Precast headwall for 900mm dial Precast headwall for 1050mm dial Precast headwall for 1050mm dial Precast Concrete Box Culvert (45) Precast Concrete Box Culvert (45) Precast Concrete Box Culvert (75) Precast Concrete Box Culvert (12) Precast Concrete Box Culvert (12) Precast Concrete Box Culvert (12)	r slabs, paving and the like, including com Class 4 600mm dia Class 4 750mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia Class 4 1500mm dia meter culvert ameter culvert ameter culvert ameter culvert ameter culvert	m² m m m m m	\$ \$ \$ \$	4.20 \$ 540.00 \$ 795.00 \$	4.28 549.69 809.27	Rawlinsons 2024 Australian Construction Handbook
Concrete pipe to AS 4058-1992 (Precast headwall for 600mm dia Precast headwall for 900mm dia Precast headwall for 1050mm di Precast headwall for 1050mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18	Class 4 600mm dia Class 4 750mm dia Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia Class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert	m m m m m	\$ \$ \$	540.00 \$ 795.00 \$	549.69 809.27	
Concrete pipe to AS 4058-1992 Concrete Box Culvert (45 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (18 Precast Concrete	Class 4 750mm dia Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia Meter culvert Meter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert	m m m m	\$ \$	795.00 \$	809.27	Rawlinsons 2024 Australian Construction Handbook
Concrete pipe to AS 4058-1992 Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (18 Precast Concrete Box	Class 4 750mm dia Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia Meter culvert Meter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert Memeter culvert	m m m m	\$ \$	795.00 \$	809.27	
Concrete pipe to AS 4058-1992 (Precast headwall for 600mm dia Precast headwall for 900mm dia Precast headwall for 1000mm di Precast headwall for 1200mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18 Precast Concrete Box Cul	Class 4 900mm dia Class 4 1050mm dia Class 4 1200mm dia Class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert	m m m m	\$			Estimation - Interpolation
Concrete pipe to AS 4058-1992 of Concrete pipe to AS 4058-1992 of Precast headwall for 600mm dia Precast headwall for 900mm dia Precast headwall for 1050mm di Precast headwall for 1500mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (175 Precast Concrete Box Culvert (127 Precast Concrete Box Culvert (127 Precast Concrete Box Culvert (127 Precast Concrete Box Culvert (128 Precast Concrete Box Culvert (128 Precast Concrete Box Culvert (188 Precast Concrete Box Culv	Class 4 1200mm dia Class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert	m m	\$		1,068.84	Rawlinsons 2024 Australian Construction Handbook
Concrete pipe to AS 4058-1992 of Precast headwall for 600mm dian Precast headwall for 1050mm diangereast headwall for 1050mm diangereast headwall for 1200mm diangereast headwall for 1500mm diangereast Concrete Box Culvert (37) Precast Concrete Box Culvert (75) Precast Concrete Box Culvert (75) Precast Concrete Box Culvert (15) Precast Concrete Box Culvert (15) Precast Concrete Box Culvert (15) Precast Concrete Box Culvert (18) Precast Concrete Box Culvert (18) Precast Concrete Box Culvert (18)	Class 4 1500mm dia meter culvert meter culvert ameter culvert ameter culvert ameter culvert	m		1,400.00 \$	1,425.13	Estimation - Interpolation
Precast headwall for 600mm dia Precast headwall for 900mm dia Precast headwall for 1050mm di Precast headwall for 1200mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (12	meter culvert meter culvert ameter culvert ameter culvert ameter culvert		\$	1,750.00 \$	1,781.41	Rawlinsons 2024 Australian Construction Handbook
Precast headwall for 900mm dia Precast headwall for 1050mm di Precast headwall for 1200mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18	meter culvert ameter culvert ameter culvert ameter culvert	ea	\$	2,500.00 \$	2,544.87	Rawlinsons 2024 Australian Construction Handbook
Precast headwall for 1050mm di Precast headwall for 1200mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (12	ameter culvert ameter culvert ameter culvert		\$	1,380.00 \$	1,404.77	Rawlinsons 2024 Australian Construction Handbook
Precast headwall for 1200mm di Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (72 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18	ameter culvert ameter culvert	ea	\$	1,500.00 \$		Estimation, checked with Holcim/Humes/Rocla Quotes
Precast headwall for 1500mm di Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18	ameter culvert	ea	\$ \$	2,000.00 \$ 3,000.00 \$	2,035.89	Estimation, checked with Holcim/Humes/Rocla Quotes Estimation, checked with Holcim/Humes/Rocla Quotes
Precast Concrete Box Culvert (37 Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18		ea ea	\$	3,000.00 \$ 5,000.00 \$	3,053.84 5,089.74	Estimation, checked with Holcim/Humes/Rocia Quotes
Precast Concrete Box Culvert (45 Precast Concrete Box Culvert (75 Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18		m	Ś	389.00 \$	395.98	Rawlinsons 2024 Australian Construction Handbook
Precast Concrete Box Culvert (12 Precast Concrete Box Culvert (18	50 x 600)	m	\$	546.00 \$	555.80	Rawlinsons 2024 Australian Construction Handbook
Precast Concrete Box Culvert (18	50 x 600)	m	\$	709.00 \$	721.72	Rawlinsons 2024 Australian Construction Handbook
		m	\$	2,000.00 \$	2,035.89	Estimation, checked with Holcim/Humes/Rocla Quotes
Precast Concrete Boy Culvert (27		m	\$	3,000.00 \$	3,053.84	Estimation, checked with Holcim/Humes/Rocla Quotes
		m	\$	1,120.00 \$		Estimate based on costing from other Councils
Precast Concrete Box Culvert (40 Cast in-situ concrete culvert	000 x 3115)	m m	\$ \$	5,760.00 \$ 6,675.00 \$	5,863.38 6,794.80	Rawlinsons 2024 Australian Construction Handbook Estimate based on costing from other Councils
Cast in-situ concrete cuivert	00 x 900)	ea	\$	2,650.00 \$	2,697.56	Rawlinsons 2024 Australian Construction Handbook
Additional pit depth beyond 900	•	per 100mm	\$	250.00 \$	254.49	Rawlinsons 2024 Australian Construction Handbook
Precast concrete pit (1200 x 1200	0 x 1200)	ea	\$	2,200.00 \$	2,239.48	Estimate based on costing from other Councils
Precast concrete pit (2400 x 240		ea	\$	4,000.00 \$	4,071.79	Estimation
Concrete covers (900 x 900 traffi		ea	\$	410.00 \$	417.36	Rawlinsons 2024 Australian Construction Handbook
Grate (762 x 762 class D sump gr Grate (2m x 2m)	rate)	ea ea	\$ \$	1,700.00 \$ 2,000.00 \$	1,730.51	Rawlinsons 2024 Australian Construction Handbook Estimation
2.4m lintel and grate		ea	\$	1,600.00 \$		Estimation, checked with Holcim/Humes/Rocla Quotes
4.2m lintel and grate		ea	Ś	3,500.00 \$		Estimation
HumeGard GPT 600mm		ea	\$	39,000.00 \$	39,699.94	Rawlinsons 2024 Australian Construction Handbook
HumeGard GPT 900mm		ea	\$	80,000.00 \$	81,435.77	Rawlinsons 2024 Australian Construction Handbook
HumeGard GPT 1200mm		ea	\$	125,000.00 \$	127,243.38	Rawlinsons 2024 Australian Construction Handbook
50mm sand bed laid in trenches		m ²	\$	4.30 \$	4.38	Rawlinsons 2024 Australian Construction Handbook
Compaction of foundation trend	hes	m ²	\$	4.00 \$	4.07	Rawlinsons 2024 Australian Construction Handbook
Preparation of culvert base		m ²	\$	385.00 \$	391.91	Estimate based on costing from other Councils
Backfill of culvert		m ³	\$	221.00 \$	224.97	Estimate based on costing from other Councils
Break into existing pit		ea	\$	600.00 \$	610.77	Estimation
_ ·	forced concrete spans, safety rails, excl a	m ²	\$	2,260.00 \$		Rawlinsons 2024 Australian Construction Handbook
Pipe Jacking Excavations (2)	d:_	ea	\$	19,500.00 \$	19,849.97	Gold Coast Water 2008, factored by 1.3 for current price
Pipe Jacking 1050mm/1200mm (m ³	\$	6,555.00 \$		Estimation based on Gold Coast Water 2008, incl pipe cos
	slabs thickening on fill (NE 150mm thick)	m³ ³	\$	420.00 \$	427.54	Rawlinsons 2024 Australian Construction Handbook
	slabs thickening on fill (150/300mm thick	m³ m²	\$	415.00 \$	422.45	Rawlinsons 2024 Australian Construction Handbook
Outlet scour protection - reno m Land Acquisition/Easement Cost		m² m²	\$	500.00 \$	508.97	Estimation
Land Acquisition/Easement Cost		m				
abilitation 200mm crushed rock base		m²	\$	24.00 \$	24.43	Rawlinsons 2024 Australian Construction Handbook
Hot bituminous concrete 25mm		m ²	\$	30.35 \$	30.89	Rawlinsons 2024 Australian Construction Handbook
Cast in-situ 250mm x 150mm ker	rb	m	\$	115.00 \$	117.06	Rawlinsons 2024 Australian Construction Handbook
Kerb and gutter		m	\$	1,294.50 \$,	Estimate based on costing from other Councils
Pavement	Mr. Look	m ²	\$	300.00 \$	305.38	Estimate based on costing from other Councils
Composite Road 8m suburban w	ntn Kerb	m m	\$	1,040.00 \$	1,058.66	Rawlinsons 2024 Australian Construction Handbook
Footpath 1500mm wide		m m²	\$ \$	260.00 \$	264.67	Rawlinsons 2024 Australian Construction Handbook
Footpath Line marking (100mm wide)		m- m	\$	304.00 \$ 2.10 \$	309.46 2.14	Estimate based on costing from other Councils Rawlinsons 2024 Australian Construction Handbook
Guard Rail		m	\$	166.00 \$	168.98	Rawlinsons 2024 Australian Construction Handbook
F-Type concrete barrier 970mm			\$	425.00 \$	432.63	Rawlinsons 2024 Australian Construction Handbook
	high	m		0.60 \$	0.61	Rawlinsons 2024 Australian Construction Handbook
Prepare ground - rotary hoe	high	$\frac{m}{m^2}$	\$			Rawlinsons 2024 Australian Construction Handbook
Prepare ground - rotary hoe Top soil spread and levelled 300			\$ \$	23.00 \$	23.41	Douglinsons 2024 Acceptables Committee
	mm thick	m²	\$			Rawlinsons 2024 Australian Construction Handbook
Top soil spread and levelled 300	mm thick buch	m² m²	\$	23.00 \$	12.22	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Top soil spread and levelled 300 Turf laid, rolled and watered - co	mm thick buch	m² m² m²	\$	23.00 \$ 12.00 \$	12.22 9,833.37	
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pi	mm thick buch	m² m² m² ha	\$ \$ \$	23.00 \$ 12.00 \$ 9,660.00 \$	12.22 9,833.37 166.94	Rawlinsons 2024 Australian Construction Handbook
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pi Pine bark chips	mm thick buch	m² m² m² ha m³	\$ \$ \$ \$ \$	23.00 \$ 12.00 \$ 9,660.00 \$ 164.00 \$ 31.50 \$ 460.00 \$	12.22 9,833.37 166.94	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pl Pine bark chips Ground cover and planting Sign 450mm x 600mm Reconstruct large sign	mm thick ouch laying field	m² m² m² ha m³ m² ea	\$ \$ \$ \$ \$ \$	23.00 \$ 12.00 \$ 9,660.00 \$ 164.00 \$ 31.50 \$ 460.00 \$ 10,000.00 \$	12.22 9,833.37 166.94 32.07 468.26 10,179.47	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Estimation
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pl Pine bark chips Ground cover and planting Sign 450mm x 600mm Reconstruct large sign Bollard removal and reinstateme	mm thick ouch laying field	m² m² m² ha m³ m² ea	\$ \$ \$ \$ \$ \$ \$	23.00 \$ 12.00 \$ 9,660.00 \$ 164.00 \$ 31.50 \$ 460.00 \$ 10,000.00 \$	12.22 9,833.37 166.94 32.07 468.26 10,179.47 215.80	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Estimation Estimate based on costing from other Councils
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pi Pine bark chips Ground cover and planting Sign 450mm x 600mm Reconstruct large sign Bollard removal and reinstateme Keystone retaining wall	mm thick ouch laying field	m² m² ha m³ m² ea ea	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	23.00 \$ 12.00 \$ 9,660.00 \$ 164.00 \$ 31.50 \$ 460.00 \$ 10,000.00 \$ 212.00 \$ 1,086.00 \$	12.22 9,833.37 166.94 32.07 468.26 10,179.47 215.80	Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Rawlinsons 2024 Australian Construction Handbook Estimation
Top soil spread and levelled 300: Turf laid, rolled and watered - co Level, seed, fertilise and water pl Pine bark chips Ground cover and planting Sign 450mm x 600mm Reconstruct large sign Bollard removal and reinstateme Keystone retaining wall Blockwork retaining wall (compo	mm thick ouch laying field	m² m² ha m³ m² ea ea ea m	* * * * * * * * * * *	23.00 \$ 12.00 \$ 9,660.00 \$ 164.00 \$ 31.50 \$ 460.00 \$ 10,000.00 \$ 212.00 \$ 1,086.00 \$	12.22 9,833.37 166.94 32.07 468.26 10,179.47 215.80 1,105.49 361.37	Rawlinsons 2024 Australian Construction Handbook Estimation Estimate based on costing from other Councils Estimate based on costing from other Councils Rawlinsons 2024 Australian Construction Handbook
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No service relocation required
No land acquisition included
Used the upper limit of costs provided in Rawlinsons 2024, for Sydney

North Creek FRMS - Option Costs

PRELIMINARY PROJECT COST ESTIMATE FOR FLOOD MITIGATION WORKS



Date of Estimate:

Jun-25

Lakelands Bund
Involves the following construction works:
- Formation of bund (max 0.7m high)
- Reconstruction of pathway

ITEN	I DESCRIPTION	QTY	UNIT		RATE	SI	JB-TOTAL
1	Construction Preliminaries			·			
1.1		1	ea	\$	10,000.00	\$	10,000
1.2		1	ea	\$	20,000.00	\$	20,000
1.3	· · · · · · · · · · · · · · · · · · ·	2	day	\$	1,221.54		2,443
1.4	Temporary Fencing (light duty site mesh)	130	m	\$	15.27		1,985
1.5		2	ea	\$	508.97		1,018
1.6	Portable Toilet	8	week	\$	88.55	\$	708
		o 10		\$ \$	19.70		197
1.7 1.8	Silt fence	130	m m	\$	20.97		2,726
2	Site Preparation						
2.1	Land clearing (medium vegetation)	514	m2	\$	0.65	\$	335
2.2	Break up and remove bitumen paving with basecourse under	514	m2	\$	4.28	\$	2,198
2.3		46	m3	\$	81.44		3,770
2.4	Level ground surface under floor slabs, paving and the like, including compaction	514	m2	\$	4.28		2,198
2.5		260	m	\$	3.26		847
2.6	* ' * * *	97	t	\$	435.68		42,348
3	Rehabilitation						
4.1	Turf laid, rolled and watered - couch	122	m2	\$	12.22	\$	1,492
4.2	Ground cover and planting	122	m2	\$	32.07	\$	3,915
4.3	Pine bark chips	12	m3	\$	166.94	\$	2,038
4.4	•	270	m2	\$	309.46	\$	83,553
	TOTAL PRELIMINARY CONSTRUCTION COSTS					\$	181,773
5	Pre-construction costs						
٠	Design (includes Survey, Investigation Design, Geotech, REF, Concept & Detail Design)				15%	\$	27,266
	Project Management of Design				15%	\$	4,090
	Troject Management of Design				1370	J	4,030
	Pre-construction sub-total					\$	31,356
	Pre-construction contingency				40%	\$	12,542
	TOTAL PRE-CONSTRUCTION COSTS					\$	43,898
6	Additional construction costs						
٠	Preliminary construction cost					\$	181,773
	Construction management/supervision				15%	\$	
	Construction management/supervision				1376	>	27,266
	Construction sub-total					\$	209,039
	Construction contingency				40%	\$	83,616
	TOTAL CONSTRUCTION COSTS					\$	292,655
	TOTAL PROJECT ESTIMATE					\$	336,553

North Creek FRMS - Option Costs

PRELIMINARY PROJECT COST ESTIMATE FOR FLOOD MITIGATION WORKS



Date of Estimate:

Jun-25

Wilton Close Basin
Involves the following construction works:
- Formation of bund (max 1.8m high)
- Excavation of basin
- Rehabilitation works

ITEM	DESCRIPTION	QTY	UNIT	RATE		SUB-TOTAL
1	Construction Preliminaries					
1.1	Establishment (Project Inception, Management and Coordination)	1	ea	\$ 10,000.00		10,000
1.2	Preparation and implementation of preliminaries (e.g. CEMP, SMP, TCP, QMP)	1	ea	\$ 20,000.00	\$	20,000
1.3	Survey and set out works	2	day	\$ 1,221.54		2,443
1.4	Temporary Fencing (light duty site mesh)	40	m	\$ 15.27		611
1.5	Temporary Signage	2	ea	\$ 508.97		1,018
1.6	Portable Toilet	16	week	\$ 88.55		1,417
1.7	Silt sausage	5	m	\$ 19.70	\$	98
1.8	Silt fence	20	m	\$ 20.97	\$	419
2	Site Preparation					
2.1	Land clearing (medium vegetation)	2,235	m2	\$ 0.65	\$	1,456
2.2	Excavate over site to reduce levels in light soil	723	m3	\$ 27.38	\$	19,804
2.3	Balance cut and fill (0.5/1m deep) in light soil	464	m3	\$ 18.63	\$	8,637
2.4	Level ground surface under floor slabs, paving and the like, including compaction	1,470	m2	\$ 4.28	\$	6,284
2.5	Labour forming sloping edge to filling	240	m	\$ 3.26	\$	782
2.6	Cart excavated material	260	per 5km per m3	\$ 30.54	\$	7,928
2.7	Dispose of clean fill	415	t	\$ 357.30	\$	148,420
3	Rehabilitation					
4.1	Turf laid, rolled and watered - couch	2,011	m2	\$ 12.22		24,569
4.2	Ground cover and planting	223	m2	\$ 32.07		7,166
4.3	Pine bark chips	22	m3	\$ 166.94	\$	3,731
4.4	Sign 450mm x 600mm	2	ea	\$ 468.26	\$	937
-	TOTAL PRELIMINARY CONSTRUCTION COSTS				\$	265,720
5	Pre-construction costs					
	Design (includes Survey, Investigation Design, Geotech, REF, Concept & Detail Design)			15%	\$	39,858
	Project Management of Design			15%	\$	5,979
	Pre-construction sub-total				\$	45,837
	Pre-construction contingency			40%	\$	18,335
	- To constitution containing only			1070		10,555
	TOTAL PRE-CONSTRUCTION COSTS				\$	64,171
6	Additional construction costs					
	Preliminary construction cost				\$	265,720
	Construction management/supervision			15%	\$	39,858
	· · · · · · · · · · · · · · · · · · ·					,
	Construction sub-total				\$	305,578
	Construction contingency			40%	\$	122,231
_	TOTAL CONSTRUCTION COSTS				\$	427,809
	TOTAL PROJECT ESTIMATE				\$	491,980
	TOTAL I NOVLOT LOTHINATE				ą	431,300